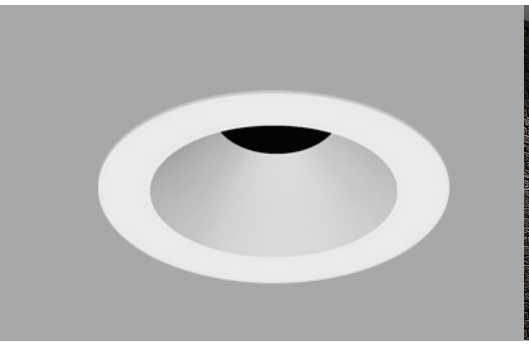
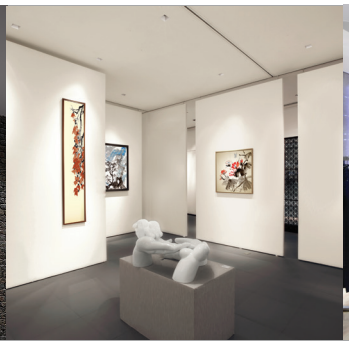
fusion LIGHTING
By Elite Lighting

ER3-SHAL-LED-IC

3" Architectural High Lumen Shallow LED Downlight

3"

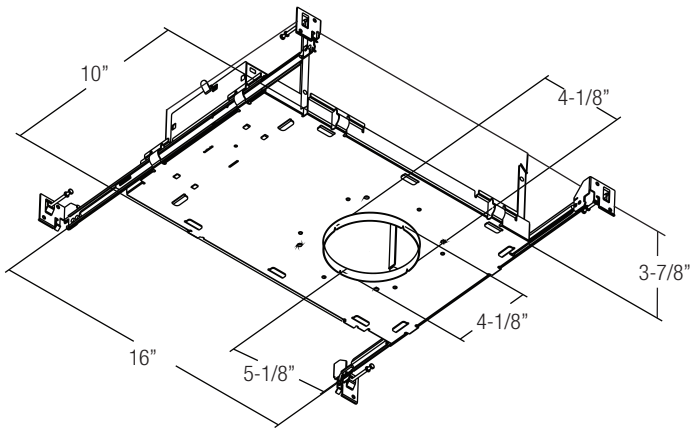




TRIM OPTIONS

ROUND FLANGED

SQUARE FLANGED



NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
1200	1392	16 W
900	1037	12 W
700	881	10 W

Based on 4000K, 90+ CRI. Actual wattage may vary +/- 5%

HIGH PERFORMANCE OPTIONS

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
1500	1680	17 W
1200	1380	14 W

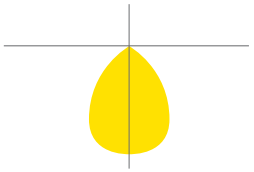
Based on 4000K, 90+ CRI. Actual wattage may vary +/- 5%

FEATURES

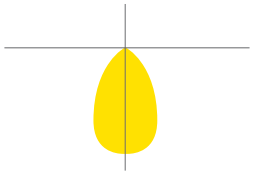
Achieve all of your lighting application objectives with only one universal high-performance architectural housing. The Fusion ER3-LED is a 3" LED Universal Downlight that can accept, Round and Square Trims for both trim and trim-less applications (using an ER3-TL for round or ES3-TL for square trim-less mud ring). The universal functionality and fully adjustable of the ER-3 Downlight can be utilized as a Recessed directional, accent, wet location shower, and downlight. The Fusion ER3 series is ideal for retail, hospitality, commercial, and high-end residential applications

LUMENS	700, 900, 1200 (Custom lumen packages available)
CCT & DYNAMIC PLATFORMS	27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	SPD(Sport-15°),ND(Narrow-24°), MD(Medium-35°), MWD(Medium Wide-45°), WD(Wide-52°)
TRIM OPTIONS	Downlight, Lensed Downlight, and Pinhole, Square and Round Trim and Trim-less Options
REFLECTOR COLORS	WH (White), CL (Chrome), SHZ (Satin Haze), BK (Black)
FLANGE COLORS	WH (White)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, LUT2W, ELDO10.1, ELDODMX.1, ELDODALI.1, DIMTR
EMERGENCY	10W - Up to 1000L Output (Bodine BSL310) 20W - Up to 2000L Output (Bodine BSL20)
LIFETIME	L70 at 102,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21
CCEA OPTION	For CCEA approved ER3 Family, please contact Elite Lighting for more information.

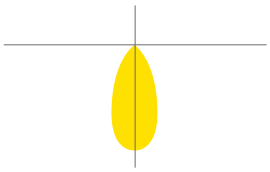
WD: WIDE
Candlepower Distribution Curve



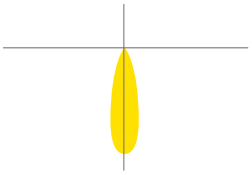
MWD: MEDIUM WIDE
Candlepower Distribution Curve



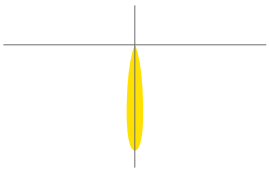
MD: MEDIUM
Candlepower Distribution Curve



ND: NARROW
Candlepower Distribution Curve



SPD: SPOT
Candlepower Distribution Curve



Reference IES files for additional distribution curve information.

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
072021

FLANGED OPTION

Post-painted powder coated Die-Cast trim ring available in white and custom colors (Please consult factory for custom paint color options). Collar and trim rotate jointly, and a Solite frosted lens is standard on all trims (Please consult factory for additional lens options). Available in Open Downlight, Lensed Downlight, Pinhole Downlight, Slot, Adjustable Downlight Accent or Lensed Adjustable Wall Wash. Trims attach to the housing with piano springs for snug fit and zero light leakage.

TRIM-LESS OPTION

Die-Cast perforated mesh cover intended for installation in drywall or plaster ceilings. Mudding may be applied right up to the edge of the luminaire opening to provide a seamless appearance. Trimless accessory is secured to the housing to prevent fractures in the ceiling and/or drywall during and after installation. Trims attach to the housing with piano springs for snug fit and zero light leakage. Available in Open Downlight, Lensed Downlight, Pinhole Downlight, Slot, Adjustable Downlight Accent or Lensed Adjustable Wall Wash.

HOUSING

Designed for new construction installations and suitable for IC applications. Thermally protected, specification grade adjustable recessed housing. For new construction insulated ceilings where housing will be in direct contact with insulation. die-formed all aluminum construction is painted matte black for maximum heat dissipation, rust protection and glare-free illumination.

MOUNTING

Pre-installed bar hangers allow housing to be positioned and locked at any point within a 24" joist span. They can be positioned on either the long or short axis of the housing and can be shortened for 12" joists. Bar hangers can fit onto T-Bar spline with additional slots and holes for special mounting methods, if necessary. Butterfly brackets are also provided and are constructed from 18-gauge steel and can be adjusted vertically. Butterfly brackets may be installed with 3/4" or 1-1/2" lathing channel, 1/2" EMT, or optional C-Channel mounting bars are available.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Wet Location if used with 1328 or 1307 Trims.
c-UL-us - Listed for Feed Through Wiring.

CP - City of Chicago Environmental Air (CCEA) marking for plenum applications (option)
Energy Star, JA8 and California Title 24 compliant.

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120V or 277V, 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V.
LUT2W - Lutron LTEA2W Hi-Lume 1%. 2-wire LED driver (120V forward phase only).
LUTH - Lutron LDE1 Hi-Lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology.
LUTFTB - Lutron PEQ0 Hi-Lume Premier Eco System. 0.1% dimming with Soft in Fade to Black dimming technology. Available on all luminaires up to 20 watts.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and Dali control systems.
The LED driver is rated for 50 to 60Hz at 120V/277V input, produces less than 20%THD, and has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

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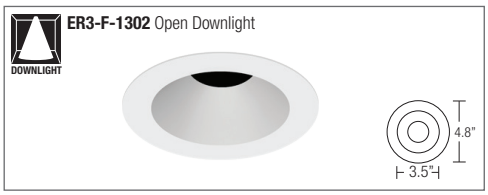
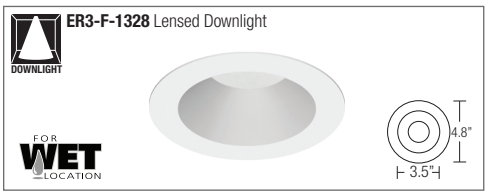
Round Flanged Trim Options

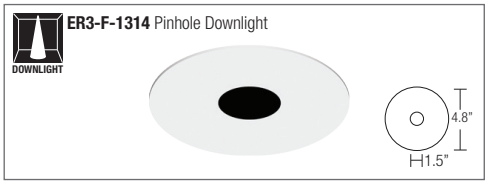
ER3-F-1302 Open Downlight



ER3-F-1328 Lensed Downlight

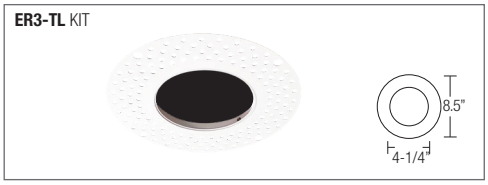


ER3-F-1314 Pinhole Downlight



Round Trim-less Options

ER3-TL KIT



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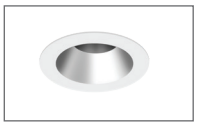
FINISH

WH-White



CL-Chrome

SHZ-Satin Haze

BK-Black

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Note:
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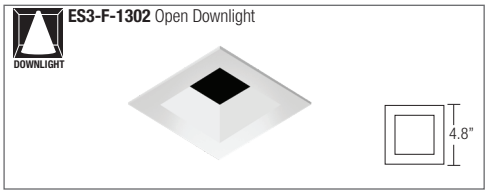
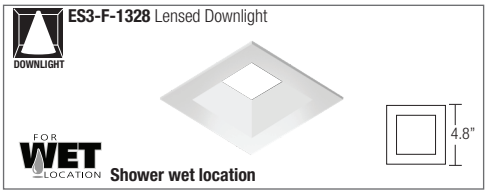
Square Flanged Trim Options

ES3-F-1302 Open Downlight

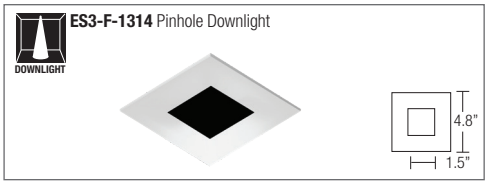


ES3-F-1328 Lensed Downlight



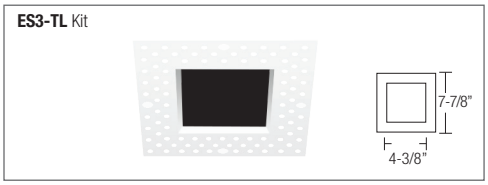
Shower wet location

ES3-F-1314 Pinhole Downlight



Square Trim-less Options

ES3-TL Kit



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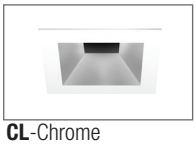
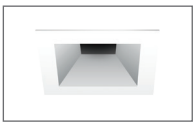
FINISH

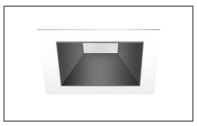
WH-White



CL-Chrome



SHZ-Satin Haze



BK-Black

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Note:
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ORDERING GUIDE

	TYPE	LUMENS	DIMMING	VOLTAGE	OPTICS	CCT	CRI	EMERGENCY	OPTIONS
HIGH PERFORMANCE	ER3-SHAL-LED-IC	❑ 700L ❑ 900L ❑ 1200L	❑ DIMTR [1] ❑ DIM10 ❑ LUTH [2] ❑ LUT2W [1] ❑ ELDO10.1 [2] ❑ ELDODALI.1 [2] ❑ ELDODMX.1 [2]	❑ 120 ❑ 277 ❑ 347 (DIM10 only) ❑ MVOLT	❑ SPD (15°) ❑ ND (24°) ❑ MD (35°) ❑ MWD (45°) ❑ WD (52°)	❑ 27K ❑ 30K ❑ 35K ❑ 40K ❑ 50K	❑ 90+ ❑ 98+	❑ EMG-LED-10W ❑ EMG-LED-20W Only accessible from the top of the luminaire	❑ Blank-Standard bar hangers (included) ❑ BP31 - 27" C-channel bar hangers. ❑ RIF - RIF filter.. ❑ CP - CCEA Chicago plenum ❑ HP - High Performance (only 3500K and 4000K based on 90CRI.)

[1] **DIMTR** and **LUT2W** are available in 120V only - Reference last page for Control Options

[2] **LUTH**, **ELDO10.1**, **ELDODALI.1**, and **ELDODMX.1** are available in 120V and 277V

TRIM OPTIONS

TRIM & TRIM-LESS OPTIONS

ROUND TRIM OPTIONS

TRIM OPTIONS		FINISH	LENS FILTERS	
❑ **ER3-F-1328**- Lensed Downlight (wet Location) ❑ **ER3-F-1314****- Pinhole Downlight	❑ **ER3-F-1302**- Open Downlight ❑ **ER3-TL-KIT***- Kit	❑ **W-WH** - White ❑ **CL-WH** - Chrome ❑ **SHZ-WH**-Satin Haze ❑ **BK-WH**-Black	❑ **BP8MR16-FR** - FROSTED ❑ **BP8MR16-SF** - SOFT FOCUS ❑ **BP8MR16-CL** - CLEAR ❑ **BP8MR16-UV** - ULTRAVIOLET ❑ **BP8MR16-SP** - SPREAD ❑ **BPmr16-HC** - HONEY COMB ❑ **BPmr16-LI** - LINEAR ❑ **BPmr16-SOL** - SOLITE **Note:** Additional lens filters must only be used on open non-lensed downlight trim options	❑ **BP8MR16-BL** - BLUE ❑ **BP8MR16-GR** - GREEN ❑ **BP8MR16-PI** - PINK ❑ **BP8MR16-PU** - PURPLE ❑ **BP8MR16-DL** - DAY LIGHT ❑ **BP8MR16-YE** - YELLOW ❑ **BP8MR16-AM**- AMBER ❑ **BP8MR16-OR** - ORANGE ❑ **BP8MR16-RE** - RED

SQUARE TRIM OPTIONS

TRIM OPTIONS		FINISH	LENS FILTERS	
❑ **ES3-F-1328**- Lensed Downlight (wet Location) ❑ **ES3-F-1314****- Pinhole Downlight	❑ **ES3-F-1302**- Open Downlight ❑ **ES3-TL-KIT***- Kit	❑ **W-WH** - White ❑ **CL-WH** - Chrome ❑ **SHZ-WH**-Satin Haze ❑ **BK-WH**-Black	❑ **BP8MR16-FR** - FROSTED ❑ **BP8MR16-SF** - SOFT FOCUS ❑ **BP8MR16-CL** - CLEAR ❑ **BP8MR16-UV** - ULTRAVIOLET ❑ **BP8MR16-SP** - SPREAD ❑ **BPmr16-HC** - HONEY COMB ❑ **BPmr16-LI** - LINEAR ❑ **BPmr16-SOL** - SOLITE **Note:** Additional lens filters must only be used on open non-lensed downlight trim options	❑ **BP8MR16-BL** - BLUE ❑ **BP8MR16-GR** - GREEN ❑ **BP8MR16-PI** - PINK ❑ **BP8MR16-PU** - PURPLE ❑ **BP8MR16-DL** - DAY LIGHT ❑ **BP8MR16-YE** - YELLOW ❑ **BP8MR16-AM**- AMBER ❑ **BP8MR16-OR** - ORANGE ❑ **BP8MR16-RE** - RED

*Driver only accessible from the top of the luminaire when using Trim-less application

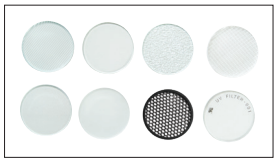
**Pinhole and Slot are only available in black (Reflector) and white (Trim)

Emergency only accessible from the top of the luminaire

COLOR FILTERS & DISTRIBUTION FILTERS

MR16 LENS FILTER

CAT. #	COLOR
BP8MR16-BL	BLUE
BP8MR16-GR	GREEN
BP8MR16-PI	PINK
BP8MR16-PU	PURPLE
BP8MR16-DL	DAY LIGHT
BP8MR16-YE	YELLOW
BP8MR16-AM	AMBER
BP8MR16-OR	ORANGE
BP8MR16-RE	RED



MR16 SPECIALTY LENS FILTER

CAT. #	COLOR
1. BP8MR16-FR	FROSTED
2. BP8MR16-SF	SOFT FOCUS
3. BP8MR16-CL	CLEAR
4. BP8MR16-UV	ULTRAVIOLET
5. BP8MR16-SP	SPREAD
6. BPMR16-HC	HONEY COMB
7. BPMR16-LI	LINEAR
8. BPMR16-SOL	SOLITE

Note:
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***Please consult factory**

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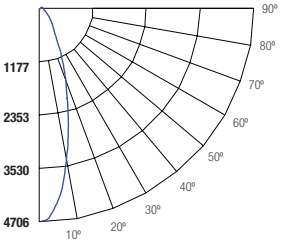
ER3-SHAL-LED-IC-1200L-DIM10-MVOLT-ND-40K-90-ER3-F-1302

TEST NO.: **EL121883**

INPUT WATTS: **16.2** LUMENS: **1580** CRI: **90** EFFICACY: **98** CCT: **4000K** SPACING CRITERIA: **0.54**

Candle Power Distribution (Candelas)



Cone of Light			
2	1076	1	1
4	269	2	2
6	120	3	3.1
8	67.2	4	4.1
10	43	5	5.1
12	29.9	6	6.1
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	940.76	59.60	59.60
0-30	1339.28	84.80	84.80
0-40	1473.09	93.30	93.30
0-60	1544.95	97.80	97.80
0-80	1575.36	99.70	99.70
0-90	1579.69	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	10156	9942	67392
55	11034	9270	7933
65	10834	9232	7760
75	10301	8930	7931
85	8521	10783	10004

Lumens Per Zone

Zone	Lumens
0-10	344.20
10-20	596.56
20-30	398.52
30-40	133.81
40-50	48.65
50-60	23.21
60-70	18.55
70-80	11.86
80-90	4.32

Candela Tabulation

	0
0	4302.33
5	4009.23
15	2023.17
25	679.12
35	61.78
45	32.78
55	28.89
65	20.90
75	12.17
85	3.39
90	0.09

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	114	111	109	107	112	109	107	105	105	104	102	101	100	99	98	97	96	94
	2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89
	3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84
	4	100	94	89	85	99	92	88	84	90	87	83	88	85	83	87	84	82	80
	5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76
	6	92	85	80	76	91	84	79	76	83	78	75	81	77	75	80	77	74	73
	7	89	81	76	72	88	80	75	72	79	75	72	78	74	71	77	74	71	70
	8	86	78	72	69	85	77	72	69	76	72	68	75	71	68	74	71	68	67
	9	83	74	69	66	82	74	69	66	73	69	66	72	68	65	71	68	65	64
	10	80	71	67	63	79	71	66	63	70	66	63	70	66	63	69	65	63	62

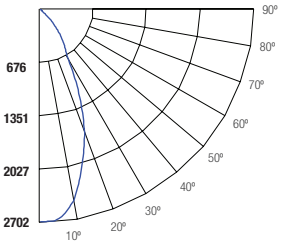
***RC** - Ceiling Cavity Reflectance* ***RW** - Wall Reflectance*

ER3-SHAL-LED-IC-1200L-DIM10-MVOLT-MD-40K-90-ER3-F-1302

TEST NO.: **EL121877**

INPUT WATTS: **16.4** LUMENS: **1417** CRI: **90** EFFICACY: **86** CCT: **4000K** SPACING CRITERIA: **0.68**

Candle Power Distribution (Candelas)



Cone of Light			
2	676	1.5	1.5
4	169	3	2.9
6	75.1	4.5	4.3
8	42.2	6	5.8
10	27	7.4	7.2
12	18.8	8.9	8.7
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	731.75	51.60	51.60
0-30	1149.81	81.10	81.10
0-40	1297.28	91.50	91.50
0-60	1377.09	97.20	97.20
0-80	1412.15	99.70	99.70
0-90	1417.1	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	59724	9713	9927
55	9404	9052	10309
65	9186	8755	9849
75	9285	8126	9082
85	10959	9451	4625

Lumens Per Zone

Zone	Lumens
0-10	232.98
10-20	498.77
20-30	418.07
30-40	147.47
40-50	53.20
50-60	26.61
60-70	21.34
70-80	13.72
80-90	4.95

Candela Tabulation

	0
0	2702.08
5	2676.09
15	2070.98
25	1176.46
35	522.18
45	192.77
55	24.62
65	17.72
75	10.97
85	4.36
90	1.06

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94
	2	108	104	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88
	3	103	97	92	89	101	96	91	88	93	90	87	91	88	85	89	86	84	82
	4	99	92	86	82	97	90	86	82	88	84	81	86	83	80	85	82	79	78
	5	94	87	81	77	93	86	81	77	84	79	76	82	78	75	81	77	75	73
	6	90	82	76	72	89	81	76	72	80	75	72	78	74	71	77	74	71	69
	7	86	78	72	68	85	77	72	68	76	71	68	75	71	68	74	70	67	66
	8	83	74	69	65	82	74	68	65	73	68	64	72	67	64	71	67	64	63
	9	80	71	65	62	79	70	65	62	69	65	61	69	64	61	68	64	61	60
	10	76	68	62	59	76	67	62	59	66	62	59	66	61	58	65	61	58	57

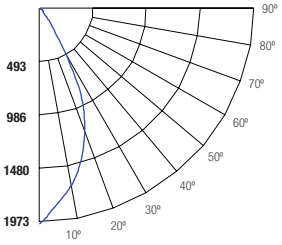
***RC** - Ceiling Cavity Reflectance* ***RW** - Wall Reflectance*

ER3-SHAL-LED-IC-1200L-DIM10-MVOLT-WD-40K-90-ER3-F-1302

TEST NO.: **EL121880**

INPUT WATTS: **16.4** LUMENS: **1392** CRI: **90** EFFICACY: **85** CCT: **4000K** SPACING CRITERIA: **0.78**

Candle Power Distribution (Candelas)



Cone of Light			
2	491	1.9	1.8
4	123	3.8	3.7
6	54.5	5.6	5.5
8	30.7	7.5	7.4
10	19.6	9.4	9.2
12	13.6	11.3	11.1
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	581.20	41.70	41.70
0-30	1019.85	73.20	73.20
0-40	1235.57	88.70	88.70
0-60	1344.91	96.60	96.60
0-80	1386.66	99.60	99.60
0-90	1392.32	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	14955	26424	73502
55	15339	13685	11775
65	14960	13110	11358
75	14093	12536	11283
85	11613	13800	12769

Lumens Per Zone

Zone	Lumens
0-10	170.09
10-20	411.11
20-30	438.65
30-40	215.72
40-50	76.50
50-60	32.84
60-70	25.58
70-80	16.18
80-90	5.66

Candela Tabulation

	0
0	1962.63
5	1796.38
15	1459.19
25	939.66
35	225.93
45	48.27
55	40.16
65	28.86
75	16.65
85	4.62
90	0.11

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93
	2	107	102	98	94	105	101	97	93	97	94	91	94	92	89	91	89	88	86
	3	102	95	90	86	100	94	89	85	91	87	84	89	85	83	86	84	81	80
	4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74
	5	92	83	78	73	90	83	77	73	81	76	72	79	75	72	77	74	71	69
	6	87	79	73	68	86	78	72	68	76	71	67	75	70	67	73	70	67	65
	7	83	74	68	64	82	73	68	64	72	67	63	71	66	63	70	66	63	61
	8	79	70	64	60	78	69	64	60	68	63	60	67	63	59	66	62	59	58
	9	76	66	60	56	75	66	60	56	65	60	56	64	59	56	63	59	56	54
	10	73	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52

***RC** - Ceiling Cavity Reflectance* ***RW** - Wall Reflectance*

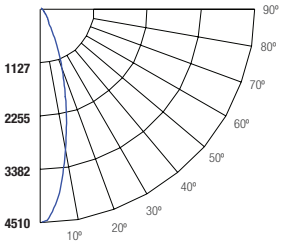
Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

ER3-SHAL-LED-IC-1200L-DIM10-MVOLT-ND-40K-90-ES3-F-1302

TEST NO.: **EL121884**

INPUT WATTS: **16.2** LUMENS: **1368** CRI: **90** EFFICACY: **84** CCT: **4000K** SPACING CRITERIA: **0.54**

Candle Power Distribution (Candelas)



Cone of Light			
2	1018	1	1
4	255	2	2
6	113	3	3.1
8	63.6	4	4.1
10	40.7	5	5.1
12	28.3	6	6.1
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	896.08	65.50	65.50
0-30	1226.67	89.70	89.70
0-40	1307.38	95.60	95.60
0-60	1350.45	98.70	98.70
0-80	1365.52	99.80	99.80
0-90	1367.59	100.00	100.00

Luminance (Average candela/M^2)

Angle in Degrees	Average 0º	Average 45º	Average 90º
45	5732	6382	36909
55	6669	5340	4560
65	5386	5085	4204
75	4131	4139	4173
85	2589	5706	6008

Lumens Per Zone

Zone	Lumens
0-10	329.16
10-20	566.92
20-30	330.58
30-40	80.72
40-50	29.69
50-60	13.38
60-70	9.65
70-80	5.42
80-90	2.07

Candela Tabulation

	0
0	4072.08
5	3874.33
15	1824.07
25	280.32
35	29.88
45	18.50
55	17.46
65	10.39
75	4.88
85	1.03
90	0.05

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
	2	110	106	102	99	108	104	101	98	101	98	96	98	96	94	95	94	92	91
	3	106	100	96	93	104	99	95	92	96	93	91	94	91	89	92	90	88	86
	4	102	95	91	87	100	94	90	87	92	89	86	90	87	85	89	86	84	83
	5	98	91	86	83	96	90	86	82	88	85	82	87	84	81	85	83	80	79
	6	94	87	82	79	93	86	82	78	85	81	78	84	80	77	82	79	77	76
	7	91	83	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73
	8	88	80	75	72	87	80	75	72	79	75	72	78	74	71	77	74	71	70
	9	85	77	72	69	84	77	72	69	76	72	69	75	71	69	74	71	69	67
	10	82	74	70	67	81	74	70	67	73	69	66	73	69	66	72	69	66	65

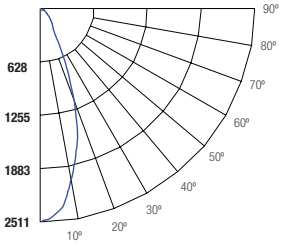
RC *- Ceiling Cavity Reflectance* ***RW*** *- Wall Reflectance*

ER3-SHAL-LED-IC-1200L-DIM10-MVOLT-MD-40K-90-ES3-F-1302

TEST NO.: **EL121879**

INPUT WATTS: **16.4** LUMENS: **1176** CRI: **90** EFFICACY: **72** CCT: **4000K** SPACING CRITERIA: **0.68**

Candle Power Distribution (Candelas)



Cone of Light			
2	618	1.4	1.4
4	155	2.9	2.9
6	68.7	4.3	4.3
8	38.6	5.7	5.8
10	24.7	7.1	7.2
12	17.2	8.5	8.7
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	690.82	58.80	58.80
0-30	1030.61	87.70	87.70
0-40	1113.36	94.70	94.70
0-60	1156.72	98.40	98.40
0-80	1173.42	99.80	99.80
0-90	1175.68	100.00	100.00

Luminance (Average candela/M^2)

Angle in Degrees	Average 0º	Average 45º	Average 90º
45	6162	7197	27208
55	7200	5699	4965
65	5863	5360	4468
75	4528	4283	4275
85	2866	5429	5706

Lumens Per Zone

Zone	Lumens
0-10	218.49
10-20	472.33
20-30	339.79
30-40	82.74
40-50	28.83
50-60	14.54
60-70	10.64
70-80	6.05
80-90	2.25

Candela Tabulation

	0
0	2473.50
5	2407.23
15	1666.47
25	425.97
35	41.31
45	19.89
55	18.85
65	11.31
75	5.35
85	1.14
90	0.05

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	114	111	109	107	112	109	107	105	105	104	102	102	100	99	98	97	96	95
	2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	89
	3	105	99	95	91	103	98	94	90	95	92	89	93	90	88	90	88	86	85
	4	100	94	89	85	99	93	88	85	91	87	84	89	85	83	87	84	82	80
	5	96	89	84	80	95	88	83	80	86	82	79	85	81	79	83	80	78	77
	6	92	85	80	76	91	84	79	76	83	78	75	81	78	75	80	77	74	73
	7	89	81	76	72	88	80	75	72	79	75	72	78	74	71	77	73	71	70
	8	86	77	72	69	84	77	72	69	76	71	68	75	71	68	74	70	68	67
	9	82	74	69	66	81	74	69	66	73	68	65	72	68	65	71	68	65	64
	10	79	71	66	63	79	71	66	63	70	66	63	69	65	62	69	65	62	61

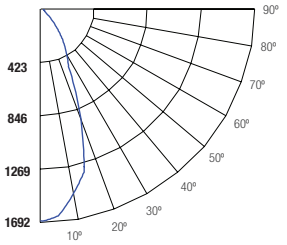
RC *- Ceiling Cavity Reflectance* ***RW*** *- Wall Reflectance*

ER3-SHAL-LED-IC-1200L-DIM10-MVOLT-WD-40K-90-ES3-F-1302

TEST NO.: **EL121881**

INPUT WATTS: **16.2** LUMENS: **1119** CRI: **90** EFFICACY: **69** CCT: **4000K** SPACING CRITERIA: **0.80**

Candle Power Distribution (Candelas)



Cone of Light			
2	417	1.7	1.8
4	104	3.5	3.4
6	46.4	5.3	5.2
8	26.1	7	6.9
10	16.7	8.8	8.6
12	11.6	10.6	10.3
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	534.07	47.70	47.70
0-30	891.96	79.70	79.70
0-40	1030.97	92.20	92.20
0-60	1095.5	97.90	97.90
0-80	1115.8	99.80	99.80
0-90	1118.53	100.00	100.00

Luminance (Average candela/M^2)

Angle in Degrees	Average 0º	Average 45º	Average 90º
45	7163	18763	42650
55	8346	6604	5370
65	6760	5894	4702
75	5231	4545	4334
85	3393	5505	5555

Lumens Per Zone

Zone	Lumens
0-10	153.06
10-20	381.01
20-30	357.89
30-40	139.01
40-50	46.66
50-60	17.87
60-70	12.88
70-80	7.42
80-90	2.74

Candela Tabulation

	0
0	1668.90
5	1643.27
15	1375.13
25	553.65
35	142.02
45	23.12
55	21.85
65	13.04
75	6.18
85	1.35
90	0.06

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94
	2	108	103	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88
	3	103	97	92	88	101	96	91	88	93	89	86	91	87	85	88	86	84	82
	4	98	91	86	82	97	90	85	81	88	84	80	86	82	79	84	81	79	77
	5	94	86	80	76	92	85	80	76	83	79	75	82	78	75	80	77	74	73
	6	90	81	76	71	88	80	75	71	79	74	71	78	73	70	76	73	70	68
	7	86	77	71	67	84	76	71	67	75	70	67	74	70	66	73	69	66	65
	8	82	73	67	63	81	72	67	63	71	67	63	70	66	63	69	65	63	61
	9	78	69	64	60	77	69	64	60	68	63	60	67	63	60	66	62	59	58
	10	75	66	61	57	74	66	60	57	65	60	57	64	60	57	63	59	56	55

RC *- Ceiling Cavity Reflectance* ***RW*** *- Wall Reflectance*

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	EASYFIT by EnOcean	LUTRON	enlighted	LEVITON	OSRAM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ LEDRU LED Relay Zone Controller 0-10V [1]	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14]	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –N0W Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
	❑ LEDDU LED Zone Controller 0-10V [1]	❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled) [14]		❑ ZL027 –N0W Intellect Power Control Module [16]	❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17]		
					❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]		
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ EOSCU-W-EO Occupancy Sensor - Ceiling Mounted **(Must be specified with LEDRU or LEDDU control unit)** [3]	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ ELLSU-W-EO Light Level Sensor - Ceiling Mounted **(Must be specified with LEDRU or LEDDU control unit)** [3]	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU-4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –N0W Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	N/A
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.