

IES INDOOR REPORT**PHOTOMETRIC FILENAME : SP4ES-11L35KDX-AR4ES-MWXF.IES****DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002

[TESTLAB] Photopia 2017.3.0 see: www.ltioptics.com/ies

[ISSUE DATE]

[TEST DATE] Tue 3/20/2018

[UPDATE] Mon 3/26/2018

[TEST] SP-00598_2_M-11L

[MANUFAC] Spectrum Lighting

[LUMCAT] SP4ES-11L-35K-DX / AR4ES-MW-xF

[LUMINAIRE] Nom. 4.5" Aperture, LED Downlight

[OTHER] Matte White trim, open aperture

[OTHER] Any flange finish

[OTHER] 61 Deg. Beam Angle

[LAMP] N/A

[LAMPCAT] N/A, 3500K CCT

[OTHER] Fully regressed lensed, light emitting surface

[OTHER] Total Luminaire Watts is approximate

[OTHER] CCT Output Multipliers: 4000K X 1.03, 3000K X 0.985

[OTHER] This report prepared by Spectrum Lighting, Preliminary

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	839
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	76
Total Luminaire Watts	11
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.92
Spacing Criterion (90-270)	0.94
Spacing Criterion (Diagonal)	0.94
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 ft (Diameter)
Luminous Height	0.00 ft

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LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	16283	16434	16513
55	12937	13026	12981
65	11102	10876	10839
75	9446	9396	9483
85	7275	7269	6815

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0	677.699	677.699	677.699	677.699	677.699	677.699	677.699	677.699	677.699	677.699
5	661.260	664.846	661.760	662.200	656.497	662.200	661.760	664.846	661.260	664.846
10	629.574	637.714	633.716	637.852	632.159	637.852	633.716	637.714	629.574	637.714
15	594.545	595.315	601.678	602.707	598.939	602.707	601.678	595.315	594.545	595.315
20	537.499	539.237	536.162	536.140	538.159	536.140	536.162	539.237	537.499	539.237
25	441.562	448.938	445.577	448.536	449.092	448.536	445.577	448.938	441.562	448.938
30	345.142	347.204	348.079	346.055	349.701	346.055	348.079	347.204	345.142	347.204
35	247.913	250.036	250.602	249.854	249.651	249.854	250.602	250.036	247.913	250.036
40	167.844	167.640	168.388	168.872	166.969	168.872	168.388	167.640	167.844	167.640
45	118.250	120.555	119.350	119.889	119.922	119.889	119.350	120.555	118.250	120.555
50	95.315	96.520	95.860	97.059	96.564	97.059	95.860	96.520	95.315	96.520
55	76.208	77.858	76.736	77.105	76.472	77.105	76.736	77.858	76.208	77.858
60	61.639	61.199	62.095	60.885	61.809	60.885	62.095	61.199	61.639	61.199
65	48.186	47.740	47.207	48.246	47.047	48.246	47.207	47.740	48.186	47.740
70	35.816	35.426	35.871	35.134	35.712	35.134	35.871	35.426	35.816	35.426
75	25.108	24.756	24.976	24.778	25.207	24.778	24.976	24.756	25.108	24.756
80	14.839	14.922	14.817	15.340	14.872	15.340	14.817	14.922	14.839	14.922
85	6.512	6.402	6.507	6.243	6.100	6.243	6.507	6.402	6.512	6.402
90	0.693	0.787	0.798	0.721	0.693	0.721	0.798	0.787	0.693	0.787

Vert. Horizontal Angles

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0	677.699	677.699	677.699	677.699	677.699	677.699	677.699
5	661.760	662.200	656.497	662.200	661.760	664.846	661.260
10	633.716	637.852	632.159	637.852	633.716	637.714	629.574
15	601.678	602.707	598.939	602.707	601.678	595.315	594.545
20	536.162	536.140	538.159	536.140	536.162	539.237	537.499
25	445.577	448.536	449.092	448.536	445.577	448.938	441.562
30	348.079	346.055	349.701	346.055	348.079	347.204	345.142
35	250.602	249.854	249.651	249.854	250.602	250.036	247.913
40	168.388	168.872	166.969	168.872	168.388	167.640	167.844
45	119.350	119.889	119.922	119.889	119.350	120.555	118.250
50	95.860	97.059	96.564	97.059	95.860	96.520	95.315
55	76.736	77.105	76.472	77.105	76.736	77.858	76.208
60	62.095	60.885	61.809	60.885	62.095	61.199	61.639
65	47.207	48.246	47.047	48.246	47.207	47.740	48.186
70	35.871	35.134	35.712	35.134	35.871	35.426	35.816
75	24.976	24.778	25.207	24.778	24.976	24.756	25.108
80	14.817	15.340	14.872	15.340	14.817	14.922	14.839
85	6.507	6.243	6.100	6.243	6.507	6.402	6.512
90	0.798	0.721	0.693	0.721	0.798	0.787	0.693

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	229.28	N.A.	27.30
0-30	433.05	N.A.	51.60
0-40	590.68	N.A.	70.40
0-60	757.33	N.A.	90.20
0-80	831.43	N.A.	99.10
0-90	839.18	N.A.	100.00
10-90	776.77	N.A.	92.60
20-40	361.40	N.A.	43.10
20-50	458.35	N.A.	54.60
40-70	214.27	N.A.	25.50
60-80	74.10	N.A.	8.80
70-80	26.48	N.A.	3.20
80-90	7.75	N.A.	0.90
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	839.18	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	62.41
10-20	166.87
20-30	203.77
30-40	157.64
40-50	96.95
50-60	69.70
60-70	47.62
70-80	26.48
80-90	7.75
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

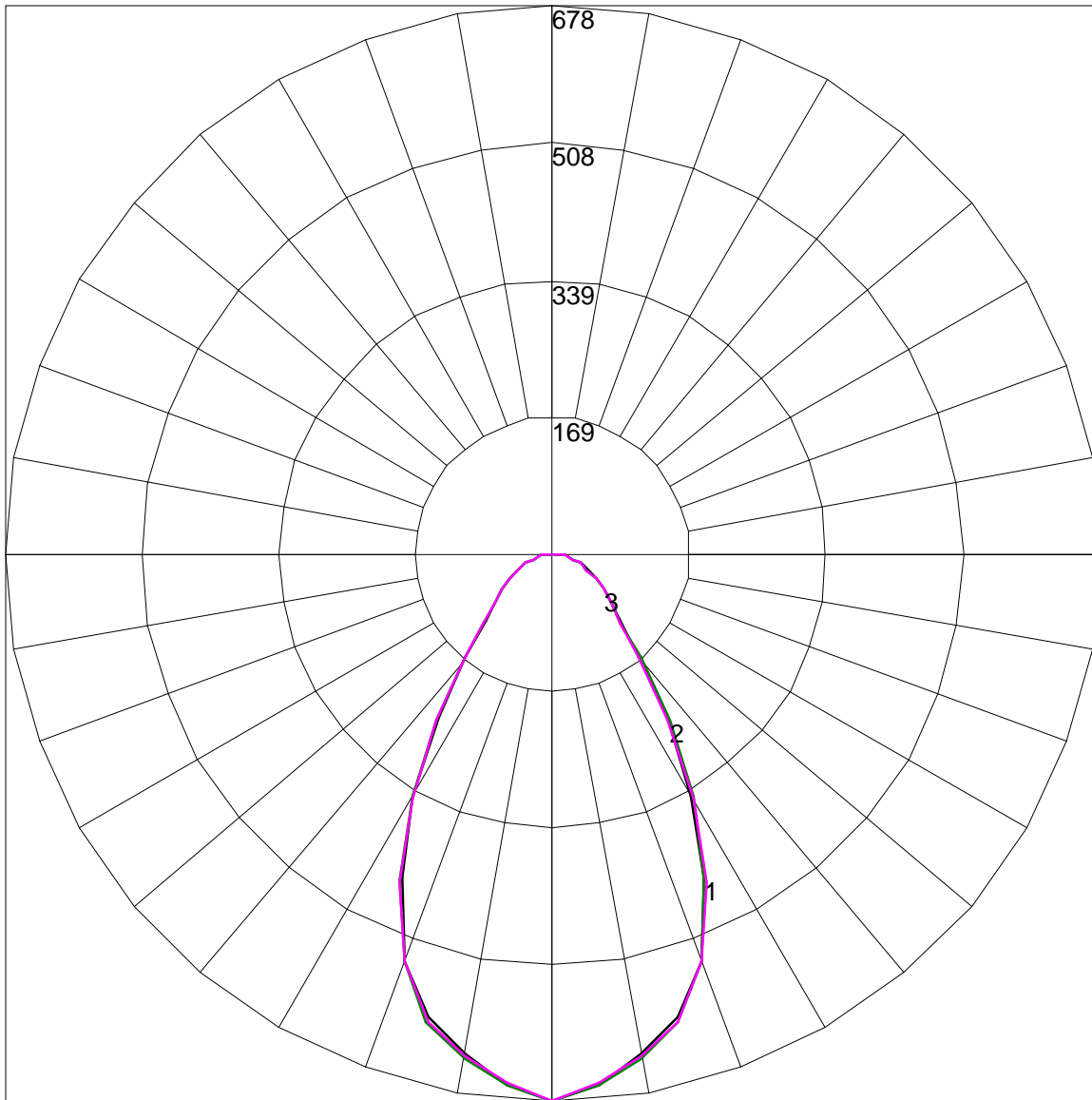
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	101	109	105	102	100	101	99	97	97	96	94	94	92	91	89
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64
5	85	74	67	62	83	73	67	62	71	65	61	70	64	60	68	63	60	58
6	80	69	61	56	78	68	61	56	66	60	56	65	59	55	63	58	55	53
7	75	64	57	51	74	63	56	51	62	55	51	60	55	51	59	54	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43	42
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39

POLAR GRAPH



Maximum Candela = 677.699 Located At Horizontal Angle = 0, Vertical Angle = 0

1 - Vertical Plane Through Horizontal Angles (0 - 180)

2 - Vertical Plane Through Horizontal Angles (45 - 225)

3 - Vertical Plane Through Horizontal Angles (90 - 270)