

IES INDOOR REPORT**PHOTOMETRIC FILENAME : SP4ES-15L35KDX-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-15L
[MANUFAC] Spectrum Lighting
[LUMCAT] SP4ES-15L-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	1144
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	76
Total Luminaire Watts	15
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	22204	22410	22518
55	17641	17763	17702
65	15138	14831	14781
75	12880	12812	12931
85	9920	9913	9293

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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	924.135	924.135	924.135	924.135	924.135	924.135	924.135	924.135	924.135	924.135
5	901.717	906.607	902.400	903.000	895.222	903.000	902.400	906.607	901.717	906.607
10	858.510	869.610	864.158	869.798	862.035	869.798	864.158	869.610	858.510	869.610
15	810.742	811.793	820.470	821.872	816.735	821.872	820.470	811.793	810.742	811.793
20	732.952	735.322	731.130	731.100	733.852	731.100	731.130	735.322	732.952	735.322
25	602.130	612.188	607.605	611.640	612.398	611.640	607.605	612.188	602.130	612.188
30	470.647	473.460	474.652	471.892	476.865	471.892	474.652	473.460	470.647	473.460
35	338.063	340.957	341.730	340.710	340.433	340.710	341.730	340.957	338.063	340.957
40	228.877	228.600	229.620	230.280	227.685	230.280	229.620	228.600	228.877	228.600
45	161.250	164.393	162.750	163.485	163.530	163.485	162.750	164.393	161.250	164.393
50	129.975	131.618	130.718	132.352	131.678	132.352	130.718	131.618	129.975	131.618
55	103.920	106.170	104.640	105.142	104.280	105.142	104.640	106.170	103.920	106.170
60	84.052	83.453	84.675	83.025	84.285	83.025	84.675	83.453	84.052	83.453
65	65.707	65.100	64.373	65.790	64.155	65.790	64.373	65.100	65.707	65.100
70	48.840	48.307	48.915	47.910	48.697	47.910	48.915	48.307	48.840	48.307
75	34.237	33.758	34.057	33.788	34.373	33.788	34.057	33.758	34.237	33.758
80	20.235	20.348	20.205	20.918	20.280	20.918	20.205	20.348	20.235	20.348
85	8.880	8.730	8.873	8.512	8.318	8.512	8.873	8.730	8.880	8.730
90	0.945	1.073	1.087	0.983	0.945	0.983	1.087	1.073	0.945	1.073

Vert. Angles **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	924.135	924.135	924.135	924.135	924.135	924.135	924.135
5	902.400	903.000	895.222	903.000	902.400	906.607	901.717
10	864.158	869.798	862.035	869.798	864.158	869.610	858.510
15	820.470	821.872	816.735	821.872	820.470	811.793	810.742
20	731.130	731.100	733.852	731.100	731.130	735.322	732.952
25	607.605	611.640	612.398	611.640	607.605	612.188	602.130
30	474.652	471.892	476.865	471.892	474.652	473.460	470.647
35	341.730	340.710	340.433	340.710	341.730	340.957	338.063
40	229.620	230.280	227.685	230.280	229.620	228.600	228.877
45	162.750	163.485	163.530	163.485	162.750	164.393	161.250
50	130.718	132.352	131.678	132.352	130.718	131.618	129.975
55	104.640	105.142	104.280	105.142	104.640	106.170	103.920
60	84.675	83.025	84.285	83.025	84.675	83.453	84.052
65	64.373	65.790	64.155	65.790	64.373	65.100	65.707
70	48.915	47.910	48.697	47.910	48.915	48.307	48.840
75	34.057	33.788	34.373	33.788	34.057	33.758	34.237
80	20.205	20.918	20.280	20.918	20.205	20.348	20.235
85	8.873	8.512	8.318	8.512	8.873	8.730	8.880
90	1.087	0.983	0.945	0.983	1.087	1.073	0.945

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	312.65	N.A.	27.30
0-30	590.52	N.A.	51.60
0-40	805.48	N.A.	70.40
0-60	1032.73	N.A.	90.20
0-80	1133.77	N.A.	99.10
0-90	1144.34	N.A.	100.00
10-90	1059.23	N.A.	92.60
20-40	492.82	N.A.	43.10
20-50	625.02	N.A.	54.60
40-70	292.19	N.A.	25.50
60-80	101.05	N.A.	8.80
70-80	36.11	N.A.	3.20
80-90	10.57	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	1144.34	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	85.11
10-20	227.55
20-30	277.86
30-40	214.96
40-50	132.20
50-60	95.05
60-70	64.94
70-80	36.11
80-90	10.57
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

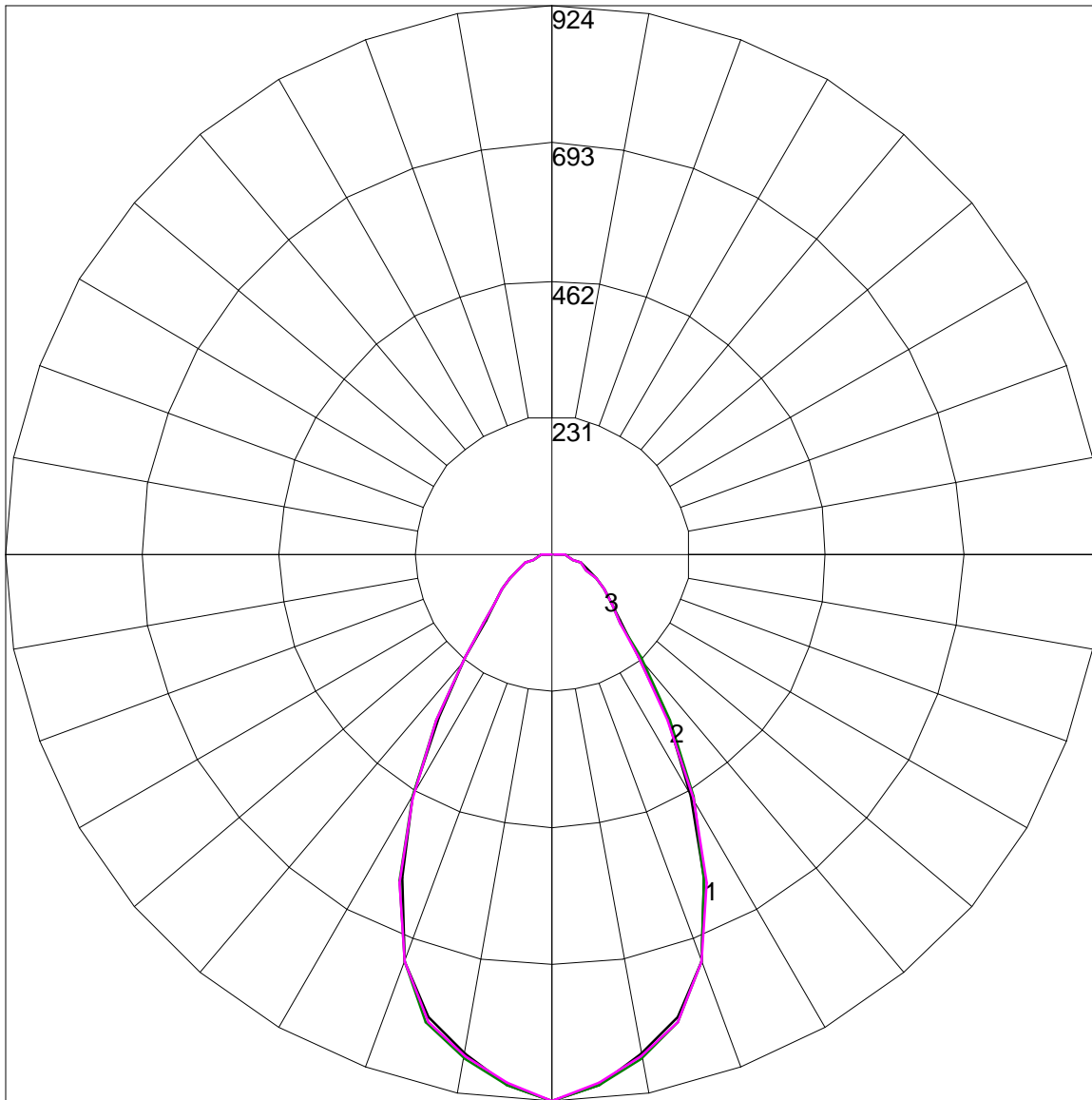
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	98	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	66	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	56	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 = 924.135 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)