

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : SP4ES-15L35KDX-AR4ES-SGXF.IES****DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TESTLAB] Photopia 2017.2.1 see: www.ltioptics.com/ies  
[ISSUE DATE]  
[TEST DATE] Thu 9/21/2017  
[UPDATE] Mon 9/26/2017  
[TEST] SP-00598\_1\_M-15L  
[MANUFAC] Spectrum Lighting  
[LUMCAT] SP4ES-15L-35K-DX / AR4ES-SG-xF  
[LUMINAIRE] Nom. 4.5" Aperture, LED Downlight  
[OTHER] Semi-Diffuse clear anodized, open aperture  
[OTHER] Any flange finish  
[OTHER] 64.4 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] Scaled from 20L Report  
[OTHER] This report prepared by Spectrum Lighting, Preliminary

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1246
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	83
Total Luminaire Watts	15
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.06
Spacing Criterion (90-270)	1.06
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	5383	5289	5326
55	1185	1296	1254
65	591	576	619
75	344	319	325
85	134	184	168

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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	1245.495	1245.495	1245.495	1245.495	1245.495	1245.495	1245.495	1245.495	1245.495	1245.495
5	1227.428	1223.430	1231.328	1230.652	1211.003	1230.652	1231.328	1223.430	1227.428	1223.430
10	1207.162	1218.503	1199.160	1208.318	1216.027	1208.318	1199.160	1218.503	1207.162	1218.503
15	1188.592	1183.050	1186.560	1176.592	1179.990	1176.592	1186.560	1183.050	1188.592	1183.050
20	1137.870	1141.770	1140.967	1142.490	1131.735	1142.490	1140.967	1141.770	1137.870	1141.770
25	1031.025	1028.632	1031.385	1033.132	1031.378	1033.132	1031.385	1028.632	1031.025	1028.632
30	773.857	782.535	780.600	778.065	780.390	778.065	780.600	782.535	773.857	782.535
35	438.435	437.550	435.757	434.790	437.280	434.790	435.757	437.550	438.435	437.550
40	166.380	164.482	163.965	164.423	163.583	164.423	163.965	164.482	166.380	164.482
45	39.090	38.722	38.407	38.790	38.678	38.790	38.407	38.722	39.090	38.722
50	14.475	14.070	14.985	14.768	14.415	14.768	14.985	14.070	14.475	14.070
55	6.982	7.298	7.635	7.522	7.388	7.522	7.635	7.298	6.982	7.298
60	4.200	4.162	4.268	4.162	4.200	4.162	4.268	4.162	4.200	4.162
65	2.565	2.400	2.498	2.520	2.685	2.520	2.498	2.400	2.565	2.400
70	1.440	1.710	1.485	1.478	1.440	1.478	1.485	1.710	1.440	1.710
75	0.915	0.938	0.848	0.892	0.863	0.892	0.848	0.938	0.915	0.938
80	0.465	0.487	0.450	0.495	0.427	0.495	0.450	0.487	0.465	0.487
85	0.120	0.128	0.165	0.120	0.150	0.120	0.165	0.128	0.120	0.128
90	0.000	0.015	0.000	0.007	0.015	0.007	0.000	0.015	0.000	0.015

**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	1245.495	1245.495	1245.495	1245.495	1245.495	1245.495	1245.495
5	1231.328	1230.652	1211.003	1230.652	1231.328	1223.430	1227.428
10	1199.160	1208.318	1216.027	1208.318	1199.160	1218.503	1207.162
15	1186.560	1176.592	1179.990	1176.592	1186.560	1183.050	1188.592
20	1140.967	1142.490	1131.735	1142.490	1140.967	1141.770	1137.870
25	1031.385	1033.132	1031.378	1033.132	1031.385	1028.632	1031.025
30	780.600	778.065	780.390	778.065	780.600	782.535	773.857
35	435.757	434.790	437.280	434.790	435.757	437.550	438.435
40	163.965	164.423	163.583	164.423	163.965	164.482	166.380
45	38.407	38.790	38.678	38.790	38.407	38.722	39.090
50	14.985	14.768	14.415	14.768	14.985	14.070	14.475
55	7.635	7.522	7.388	7.522	7.635	7.298	6.982
60	4.268	4.162	4.200	4.162	4.268	4.162	4.200
65	2.498	2.520	2.685	2.520	2.498	2.400	2.565
70	1.485	1.478	1.440	1.478	1.485	1.710	1.440
75	0.848	0.892	0.863	0.892	0.848	0.938	0.915
80	0.450	0.495	0.427	0.495	0.450	0.487	0.465
85	0.165	0.120	0.150	0.120	0.165	0.128	0.120
90	0.000	0.007	0.015	0.007	0.000	0.015	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	449.99	N.A.	36.10
0-30	906.83	N.A.	72.80
0-40	1186.17	N.A.	95.20
0-60	1242.02	N.A.	99.70
0-80	1245.67	N.A.	100.00
0-90	1245.87	N.A.	100.00
10-90	1129.2	N.A.	90.60
20-40	736.19	N.A.	59.10
20-50	784.57	N.A.	63.00
40-70	58.50	N.A.	4.70
60-80	3.65	N.A.	0.30
70-80	1.00	N.A.	0.10
80-90	0.20	N.A.	0.00
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	1245.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	116.68
10-20	333.31
20-30	456.85
30-40	279.34
40-50	48.38
50-60	7.46
60-70	2.65
70-80	1.00
80-90	0.20
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

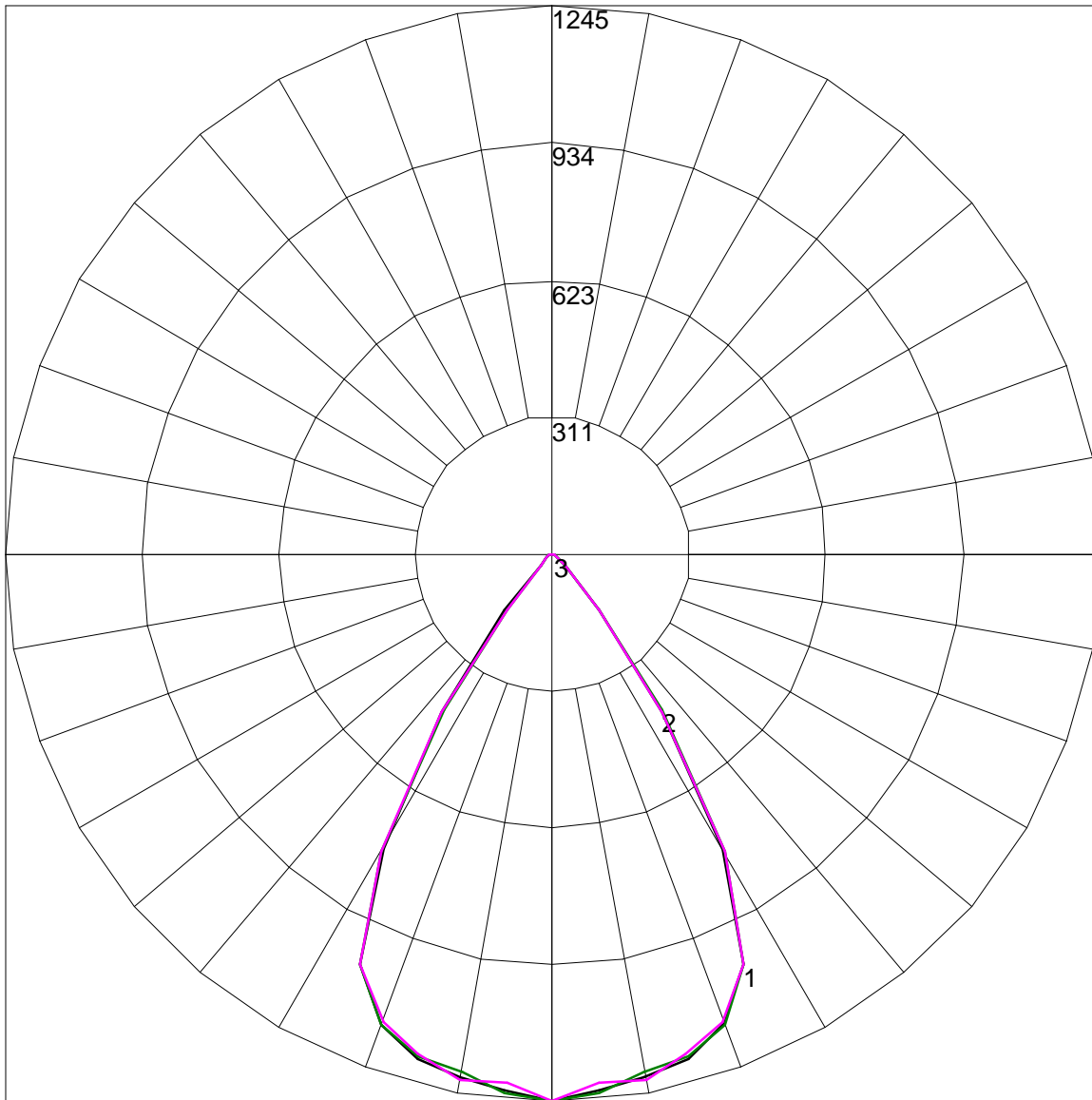
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	91	89	87
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	88	85	83	81
4	97	90	84	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76
5	92	84	78	74	91	83	78	74	81	77	73	80	76	72	78	75	72	70
6	88	79	73	69	86	78	73	69	77	72	68	75	71	68	74	70	67	66
7	83	74	68	64	82	74	68	64	72	67	63	71	67	63	70	66	63	61
8	79	70	64	60	78	69	64	60	68	63	59	67	63	59	66	62	59	58
9	75	66	60	56	74	65	60	56	64	59	56	64	59	55	63	58	55	54
10	72	62	56	53	71	62	56	52	61	56	52	60	55	52	59	55	52	51

POLAR GRAPH



Maximum Candela = 1245.495 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)