

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : SGE4SQLEDOS-45L35KEX-CA0244OS-SGSO.IES****DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TEST] 102560753CRT-017\_M-45L  
[TESTLAB] Intertek  
[ISSUE DATE] 11/14/2016  
[UPDATE] 1/4/2017  
[LAB-REF LUMCAT] CRT1611041146-006B\_M-45L  
[MANUFAC] Spectrum Lighting  
[LUMCAT] SGE4SQLEDOS-45L-35K-E1-CA0244OS-SG-SO  
[LUMINAIRE] 4" Square, LED recessed downlight  
[TRIM] Cast Alum, Semi-Diffuse finish, regressed Solite lens  
[OTHER] 69.5 Degree Beam Angle  
[LAMP] N/A  
[LAMPCAT] N/A  
[OTHER] Total Luminaire Watts is approximate  
[OTHER] Photometric measurements taken at 120VAC  
[OTHER] CCT Output Multipliers: 40K x 1.0, 30K x 1.0, 27K x 0.946  
[OTHER] This report updated by Spectrum Lighting, scaled from 30L

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3080
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	75
Total Luminaire Watts	41.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.14
Spacing Criterion (90-270)	1.14
Spacing Criterion (Diagonal)	1.14
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.31 ft
Luminous Width (90-270)	0.31 ft
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	75933	90267	78954
55	47469	42589	50530
65	19986	17360	22259
75	6655	6847	7807
85	4181	11401	5701

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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>
<b>0.0</b>	1916.156	1916.156	1916.156	1916.156	1916.156	1916.156	1916.156	1916.156	1916.156	1916.156
<b>2.5</b>	1920.004	1923.704	1919.560	1923.852	1924.592	1923.852	1919.560	1923.704	1920.004	1923.704
<b>5.0</b>	1936.728	1933.176	1936.432	1939.540	1937.024	1939.540	1936.432	1933.176	1936.728	1933.176
<b>7.5</b>	1960.852	1959.668	1965.588	1961.592	1960.852	1961.592	1965.588	1959.668	1960.852	1959.668
<b>10.0</b>	1982.460	1985.124	1994.892	1988.676	1985.124	1988.676	1994.892	1985.124	1982.460	1985.124
<b>12.5</b>	1995.928	2004.216	2025.232	2013.688	2001.404	2013.688	2025.232	2004.216	1995.928	2004.216
<b>15.0</b>	1999.776	2019.460	2049.800	2036.924	2005.400	2036.924	2049.800	2019.460	1999.776	2019.460
<b>17.5</b>	1971.804	2008.508	2068.152	2034.408	1977.724	2034.408	2068.152	2008.508	1971.804	2008.508
<b>20.0</b>	1913.788	1972.396	2062.084	2009.840	1924.000	2009.840	2062.084	1972.396	1913.788	1972.396
<b>22.5</b>	1828.984	1911.272	2028.192	1959.372	1843.784	1959.372	2028.192	1911.272	1828.984	1911.272
<b>25.0</b>	1718.872	1823.212	1952.416	1872.792	1735.448	1872.792	1952.416	1823.212	1718.872	1823.212
<b>27.5</b>	1581.084	1696.968	1838.752	1756.760	1596.920	1756.760	1838.752	1696.968	1581.084	1696.968
<b>30.0</b>	1407.776	1539.644	1693.268	1605.652	1434.268	1605.652	1693.268	1539.644	1407.776	1539.644
<b>32.5</b>	1222.332	1362.784	1518.332	1431.900	1252.228	1431.900	1518.332	1362.784	1222.332	1362.784
<b>35.0</b>	1036.592	1172.308	1324.748	1239.944	1065.156	1239.944	1324.748	1172.308	1036.592	1172.308
<b>37.5</b>	858.992	979.760	1118.288	1043.548	883.708	1043.548	1118.288	979.760	858.992	979.760
<b>40.0</b>	701.816	802.160	916.120	856.920	723.128	856.920	916.120	802.160	701.816	802.160
<b>42.5</b>	575.128	648.832	729.788	689.828	594.368	689.828	729.788	648.832	575.128	648.832
<b>45.0</b>	479.816	526.880	570.392	553.668	498.908	553.668	570.392	526.880	479.816	526.880
<b>47.5</b>	408.924	432.604	443.704	448.736	426.536	448.736	443.704	432.604	408.924	432.604
<b>50.0</b>	352.684	360.084	348.096	368.520	367.780	368.520	348.096	360.084	352.684	360.084
<b>52.5</b>	298.664	299.552	275.872	304.880	313.760	304.880	275.872	299.552	298.664	299.552
<b>55.0</b>	243.312	242.572	218.300	246.420	259.000	246.420	218.300	242.572	243.312	242.572
<b>57.5</b>	190.920	189.292	169.608	192.992	206.460	192.992	169.608	189.292	190.920	189.292
<b>60.0</b>	144.596	141.636	128.316	145.484	157.768	145.484	128.316	141.636	144.596	141.636
<b>62.5</b>	105.524	101.528	93.684	104.784	115.884	104.784	93.684	101.528	105.524	101.528
<b>65.0</b>	75.480	69.708	65.564	72.224	84.064	72.224	65.564	69.708	75.480	69.708
<b>67.5</b>	54.760	48.396	44.548	49.136	61.864	49.136	44.548	48.396	54.760	48.396
<b>70.0</b>	33.596	30.488	30.488	33.004	39.072	33.004	30.488	30.488	33.596	30.488
<b>72.5</b>	21.460	20.424	21.164	21.756	25.456	21.756	21.164	20.424	21.460	20.424
<b>75.0</b>	15.392	15.392	15.836	15.984	18.056	15.984	15.836	15.392	15.392	15.392
<b>77.5</b>	12.876	13.320	12.728	13.468	14.208	13.468	12.728	13.320	12.876	13.320
<b>80.0</b>	10.212	10.804	10.360	11.840	11.544	11.840	10.360	10.804	10.212	10.804
<b>82.5</b>	5.180	7.696	9.620	10.064	7.548	10.064	9.620	7.696	5.180	7.696
<b>85.0</b>	3.256	5.624	8.880	8.288	4.440	8.288	8.880	5.624	3.256	5.624
<b>87.5</b>	2.516	4.292	6.512	5.920	3.108	5.920	6.512	4.292	2.516	4.292
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**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>
<b>0.0</b>	1916.156	1916.156	1916.156	1916.156	1916.156	1916.156	1916.156
<b>2.5</b>	1919.560	1923.852	1924.592	1923.852	1919.560	1923.704	1920.004
<b>5.0</b>	1936.432	1939.540	1937.024	1939.540	1936.432	1933.176	1936.728
<b>7.5</b>	1965.588	1961.592	1960.852	1961.592	1965.588	1959.668	1960.852
<b>10.0</b>	1994.892	1988.676	1985.124	1988.676	1994.892	1985.124	1982.460
<b>12.5</b>	2025.232	2013.688	2001.404	2013.688	2025.232	2004.216	1995.928
<b>15.0</b>	2049.800	2036.924	2005.400	2036.924	2049.800	2019.460	1999.776
<b>17.5</b>	2068.152	2034.408	1977.724	2034.408	2068.152	2008.508	1971.804
<b>20.0</b>	2062.084	2009.840	1924.000	2009.840	2062.084	1972.396	1913.788
<b>22.5</b>	2028.192	1959.372	1843.784	1959.372	2028.192	1911.272	1828.984
<b>25.0</b>	1952.416	1872.792	1735.448	1872.792	1952.416	1823.212	1718.872
<b>27.5</b>	1838.752	1756.760	1596.920	1756.760	1838.752	1696.968	1581.084
<b>30.0</b>	1693.268	1605.652	1434.268	1605.652	1693.268	1539.644	1407.776

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**CANDELA TABULATION - (Cont.)**

<b>32.5</b>	1518.332	1431.900	1252.228	1431.900	1518.332	1362.784	1222.332
<b>35.0</b>	1324.748	1239.944	1065.156	1239.944	1324.748	1172.308	1036.592
<b>37.5</b>	1118.288	1043.548	883.708	1043.548	1118.288	979.760	858.992
<b>40.0</b>	916.120	856.920	723.128	856.920	916.120	802.160	701.816
<b>42.5</b>	729.788	689.828	594.368	689.828	729.788	648.832	575.128
<b>45.0</b>	570.392	553.668	498.908	553.668	570.392	526.880	479.816
<b>47.5</b>	443.704	448.736	426.536	448.736	443.704	432.604	408.924
<b>50.0</b>	348.096	368.520	367.780	368.520	348.096	360.084	352.684
<b>52.5</b>	275.872	304.880	313.760	304.880	275.872	299.552	298.664
<b>55.0</b>	218.300	246.420	259.000	246.420	218.300	242.572	243.312
<b>57.5</b>	169.608	192.992	206.460	192.992	169.608	189.292	190.920
<b>60.0</b>	128.316	145.484	157.768	145.484	128.316	141.636	144.596
<b>62.5</b>	93.684	104.784	115.884	104.784	93.684	101.528	105.524
<b>65.0</b>	65.564	72.224	84.064	72.224	65.564	69.708	75.480
<b>67.5</b>	44.548	49.136	61.864	49.136	44.548	48.396	54.760
<b>70.0</b>	30.488	33.004	39.072	33.004	30.488	30.488	33.596
<b>72.5</b>	21.164	21.756	25.456	21.756	21.164	20.424	21.460
<b>75.0</b>	15.836	15.984	18.056	15.984	15.836	15.392	15.392
<b>77.5</b>	12.728	13.468	14.208	13.468	12.728	13.320	12.876
<b>80.0</b>	10.360	11.840	11.544	11.840	10.360	10.804	10.212
<b>82.5</b>	9.620	10.064	7.548	10.064	9.620	7.696	5.180
<b>85.0</b>	8.880	8.288	4.440	8.288	8.880	5.624	3.256
<b>87.5</b>	6.512	5.920	3.108	5.920	6.512	4.292	2.516
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	757.13	N.A.	24.60
0-30	1593.31	N.A.	51.70
0-40	2334.98	N.A.	75.80
0-60	2977.49	N.A.	96.70
0-80	3073.31	N.A.	99.80
0-90	3080.25	N.A.	100.00
10-90	2893.64	N.A.	93.90
20-40	1577.84	N.A.	51.20
20-50	2003.69	N.A.	65.00
40-70	719.18	N.A.	23.30
60-80	95.82	N.A.	3.10
70-80	19.16	N.A.	0.60
80-90	6.93	N.A.	0.20
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	3080.25	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	186.61
10-20	570.53
20-30	836.18
30-40	741.66
40-50	425.85
50-60	216.66
60-70	76.67
70-80	19.16
80-90	6.93
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

# IES INDOOR REPORT

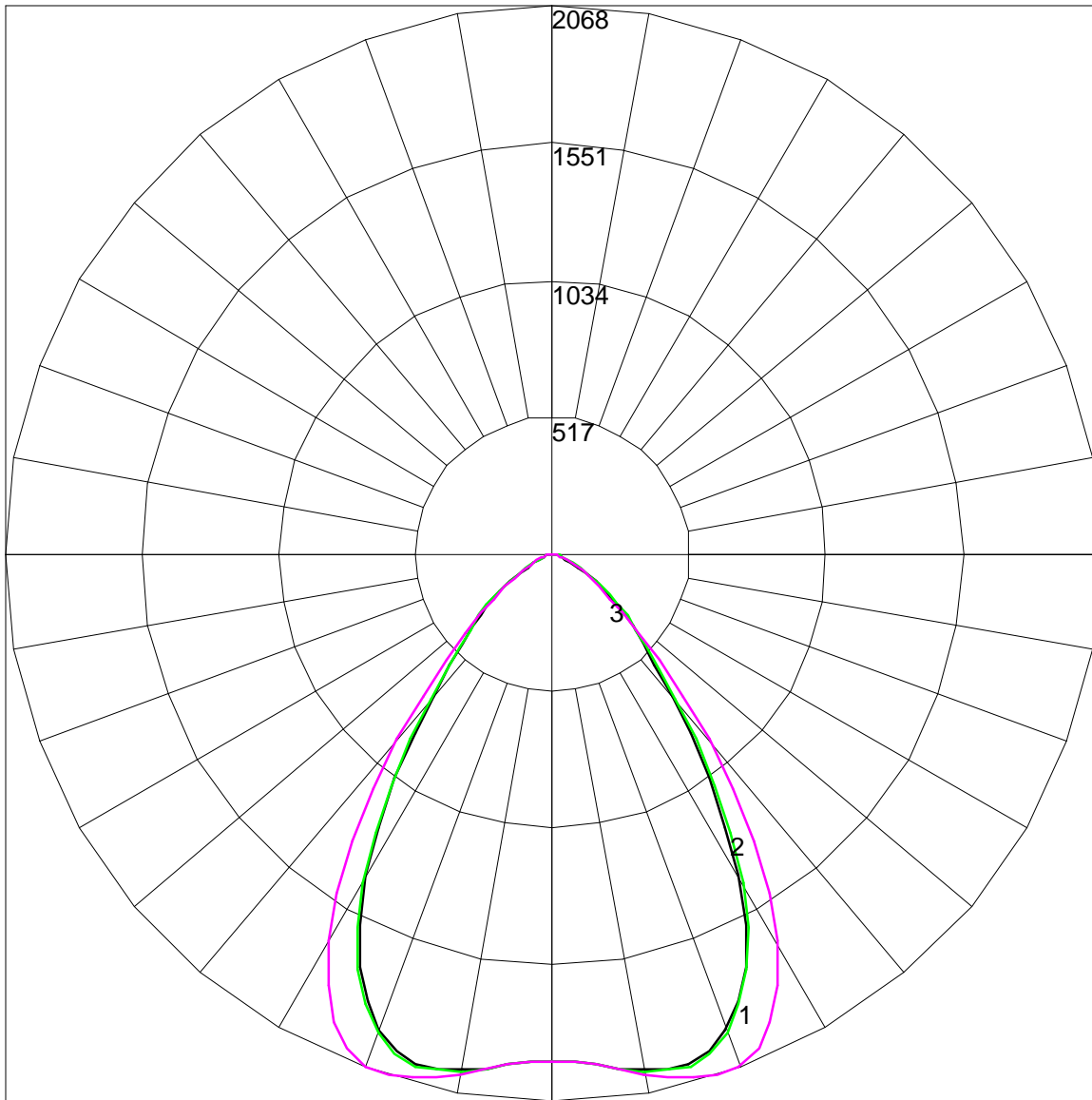
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## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91
2	105	99	95	91	103	98	93	90	94	91	88	91	88	86	88	86	84	82
3	99	91	85	80	96	89	84	79	87	82	78	84	80	77	82	79	76	74
4	92	83	77	72	90	82	76	71	80	74	70	78	73	69	76	72	69	67
5	87	77	70	64	85	76	69	64	74	68	64	72	67	63	70	66	62	61
6	81	71	64	58	80	70	63	58	68	62	58	67	61	57	65	61	57	55
7	76	65	58	53	75	65	58	53	63	57	53	62	56	52	61	56	52	51
8	72	61	54	49	70	60	53	49	59	53	48	58	52	48	57	52	48	46
9	68	56	50	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	41	51	45	41	51	45	41	50	45	41	40

POLAR GRAPH



Maximum Candela = 2068.152 Located At Horizontal Angle = 45, Vertical Angle = 17.5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180)  
# 2 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 3 - Vertical Plane Through Horizontal Angles (45 - 225)