

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776778

Luminaire Tested: HCDJBS4050CSD-HCD82TRH-5000lm-4000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776778  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B063-HCD82TRH)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD82TRH-5000lm-4000K  
Description: 8 INCH ROUND NARROW HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5329.6 lumens  
Efficiency: N/A  
Efficacy: 111.0 lumens/watt  
Spacing Criteria (0/90/45): 0.64 / 0.65 / 0.67  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

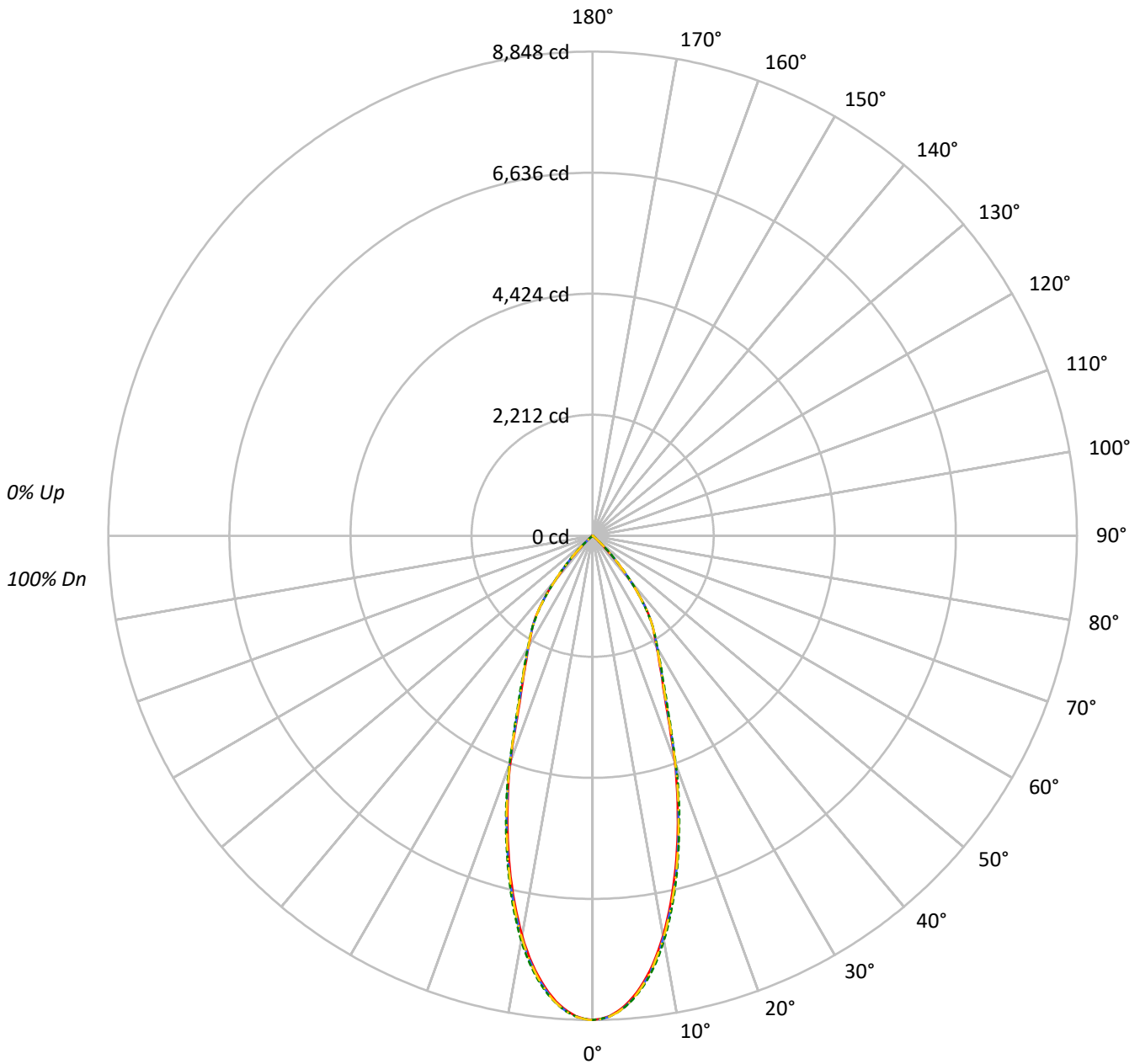
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P776778

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94								
2	108	104	100	97	106	102	99	96	99	96	94	96	94	92	93	91	90	88								
3	103	97	93	89	101	96	92	88	93	90	87	91	88	85	89	86	84	82								
4	98	91	86	82	97	90	85	82	88	84	81	86	82	80	84	81	79	77								
5	94	86	80	76	92	85	80	76	83	79	75	82	78	75	80	77	74	72								
6	89	81	75	71	88	80	75	71	79	74	70	77	73	70	76	72	69	68								
7	85	76	71	67	84	76	70	67	75	70	66	73	69	66	72	68	65	64								
8	81	72	67	63	80	72	66	63	71	66	62	70	65	62	69	65	62	61								
9	78	69	63	59	77	68	63	59	67	62	59	66	62	59	66	62	59	57								
10	74	65	60	56	73	65	60	56	64	59	56	63	59	56	63	58	56	54								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	270141	270141	270141	270141
5°	259313	260502	259313	260502
10°	229939	232816	229939	232816
15°	187924	190965	187924	190965
20°	142568	144355	142568	144355
25°	102794	105583	102794	105583
30°	82465	83730	82465	83730
35°	67501	66931	67501	66931
40°	42345	43238	42345	43238
45°	16131	18713	16131	18713
50°	2408	3387	2408	3387
55°	511	532	511	532
60°	324	324	324	324
65°	209	209	209	209
70°	125	170	125	170
75°	118	118	118	118
80°	88	88	88	88
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 18713 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	777.1	14.6
10°-20°	1648.8	30.9
20°-30°	1448.0	27.2
30°-40°	1093.5	20.5
40°-50°	344.6	6.5
50°-60°	13.2	0.2
60°-70°	3.2	0.1
70°-80°	1.0	0.0
80°-90°	0.1	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3873.9	72.7
0°-40°	4967.5	93.2
0°-60°	5325.2	99.9
0°-90°	5329.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5329.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	8848	8848	8848	8848	8848	
5°	8461	8500	8461	8500	8461	774
15°	5946	6042	5946	6042	5946	1635
25°	3052	3134	3052	3134	3052	1434
35°	1811	1796	1811	1796	1811	1092
45°	374	433	374	433	374	326
55°	10	10	10	10	10	11
65°	3	3	3	3	3	3
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	8848.3	8848.3	8848.3	<i>8848.3</i>	8848.3	8848.3	8848.3	8848.3	8848.3	8848.3	8848.3
0.5°	<i>8840.2</i>	<i>8842.1</i>	<i>8846.9</i>	<i>8848.8</i>	<i>8840.2</i>	<i>8848.8</i>	<i>8846.9</i>	<i>8842.1</i>	<i>8840.2</i>	<i>8842.1</i>	<i>8846.9</i>
1°	8828.3	8830.6	8835.4	<i>8838.8</i>	8830.2	8838.8	8835.4	8830.6	8828.3	8830.6	8835.4
1.5°	8808.2	8811.0	8817.2	<i>8821.1</i>	8812.5	8821.1	8817.2	8811.0	8808.2	8811.0	8817.2
2°	8781.4	8783.8	8791.9	<i>8796.7</i>	8788.5	8796.7	8791.9	8783.8	8781.4	8783.8	8791.9
2.5°	8744.5	8749.3	8758.9	<i>8764.6</i>	8757.0	8764.6	8758.9	8749.3	8744.5	8749.3	8758.9
3°	8702.9	8707.7	8719.2	<i>8726.4</i>	8719.2	8726.4	8719.2	8707.7	8702.9	8707.7	8719.2
3.5°	8653.2	8658.9	8671.8	<i>8680.9</i>	8675.7	8680.9	8671.8	8658.9	8653.2	8658.9	8671.8
4°	8595.3	8602.5	8617.8	<i>8628.8</i>	8624.0	8628.8	8617.8	8602.5	8595.3	8602.5	8617.8
4.5°	8531.7	8538.4	8556.5	<i>8569.9</i>	8565.2	8569.9	8556.5	8538.4	8531.7	8538.4	8556.5
5°	8461.3	8468.5	8488.6	<i>8504.4</i>	8500.1	8504.4	8488.6	8468.5	8461.3	8468.5	8488.6
5.5°	8383.8	8391.5	8412.6	<i>8430.7</i>	8428.8	8430.7	8412.6	8391.5	8383.8	8391.5	8412.6
6°	8299.2	8307.3	8330.3	<i>8351.3</i>	8351.8	8351.3	8330.3	8307.3	8299.2	8307.3	8330.3
6.5°	8210.7	8217.4	8242.7	<i>8266.2</i>	8267.6	8266.2	8242.7	8217.4	8210.7	8217.4	8242.7
7°	8114.1	8121.7	8148.0	<i>8174.3</i>	8179.6	8174.3	8148.0	8121.7	8114.1	8121.7	8148.0
7.5°	8012.6	8018.9	8046.1	<i>8073.9</i>	8081.5	8073.9	8046.1	8018.9	8012.6	8018.9	8046.1
8°	7903.6	7910.7	7939.4	<i>7969.6</i>	7979.2	7969.6	7939.4	7910.7	7903.6	7910.7	7939.4
8.5°	7790.7	7796.9	7825.6	<i>7859.6</i>	7870.6	7859.6	7825.6	7796.9	7790.7	7796.9	7825.6
9°	7669.6	7677.8	7707.9	<i>7744.3</i>	7756.7	7744.3	7707.9	7677.8	7669.6	7677.8	7707.9
9.5°	7546.2	7554.8	7583.5	<i>7621.8</i>	7636.2	7621.8	7583.5	7554.8	7546.2	7554.8	7583.5
10°	7417.1	7426.6	7456.3	<i>7497.9</i>	7509.9	7497.9	7456.3	7426.6	7417.1	7426.6	7456.3
10.5°	7283.6	7293.2	7323.8	<i>7367.8</i>	7379.3	7367.8	7323.8	7293.2	7283.6	7293.2	7323.8
11°	7141.1	7156.4	7187.5	<i>7233.4</i>	7243.4	7233.4	7187.5	7156.4	7141.1	7156.4	7187.5
11.5°	7003.8	7016.2	7047.3	<i>7091.8</i>	7103.7	7091.8	7047.3	7016.2	7003.8	7016.2	7047.3
12°	6857.9	6872.7	6904.7	<i>6949.7</i>	6960.7	6949.7	6904.7	6872.7	6857.9	6872.7	6904.7
12.5°	6711.5	6726.8	6759.3	<i>6801.9</i>	6811.5	6801.9	6759.3	6726.8	6711.5	6726.8	6759.3
13°	6561.3	6578.5	6613.4	<i>6656.0</i>	6663.6	6656.0	6613.4	6578.5	6561.3	6578.5	6613.4
13.5°	6411.1	6428.3	6464.6	<i>6502.0</i>	6513.0	6502.0	6464.6	6428.3	6411.1	6428.3	6464.6
14°	6257.0	6275.7	6312.5	<i>6346.5</i>	6358.4	6346.5	6312.5	6275.7	6257.0	6275.7	6312.5
14.5°	6101.6	6120.7	6158.0	<i>6190.1</i>	6200.1	6190.1	6158.0	6120.7	6101.6	6120.7	6158.0
15°	5945.6	5965.2	6002.1	<i>6034.6</i>	6041.8	6034.6	6002.1	5965.2	5945.6	5965.2	6002.1
15.5°	5789.2	5808.3	5845.2	<i>5876.3</i>	5887.3	5876.3	5845.2	5808.3	5789.2	5808.3	5845.2
16°	5633.7	5650.5	5687.3	<i>5718.4</i>	5731.3	5718.4	5687.3	5650.5	5633.7	5650.5	5687.3
16.5°	5480.2	5494.5	5531.4	<i>5561.5</i>	5575.4	5561.5	5531.4	5494.5	5480.2	5494.5	5531.4
17°	5322.3	5338.1	5371.6	<i>5407.0</i>	5417.5	5407.0	5371.6	5338.1	5322.3	5338.1	5371.6
17.5°	5164.9	5180.7	5214.2	<i>5250.1</i>	5262.5	5250.1	5214.2	5180.7	5164.9	5180.7	5214.2
18°	5010.4	5022.4	5058.2	<i>5093.2</i>	5105.6	5093.2	5058.2	5022.4	5010.4	5022.4	5058.2
18.5°	4855.9	4867.9	4899.9	<i>4933.9</i>	4947.3	4933.9	4899.9	4867.9	4855.9	4867.9	4899.9
19°	4700.9	4712.4	4744.0	<i>4772.7</i>	4788.0	4772.7	4744.0	4712.4	4700.9	4712.4	4744.0
19.5°	4545.9	4558.4	4584.2	<i>4608.6</i>	4620.5	4608.6	4584.2	4558.4	4545.9	4558.4	4584.2
20°	4388.1	4398.6	4419.1	<i>4442.6</i>	4443.1	4442.6	4419.1	4398.6	4388.1	4398.6	4419.1
20.5°	4228.3	4235.0	4257.0	<i>4279.0</i>	4276.1	4279.0	4257.0	4235.0	4228.3	4235.0	4257.0
21°	4065.2	4076.2	4097.2	<i>4118.7</i>	4118.3	4118.7	4097.2	4076.2	4065.2	4076.2	4097.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	3611.7	3625.1	3644.2	3679.1	3694.4	3679.1	3644.2	3625.1	3611.7	3625.1	3644.2
23°	3481.1	3491.1	3514.1	3543.7	3561.0	3543.7	3514.1	3491.1	3481.1	3491.1	3514.1
23.5°	3351.9	3376.8	3395.0	3419.4	3436.1	3419.4	3395.0	3376.8	3351.9	3376.8	3395.0
24°	3250.5	3260.1	3285.4	3311.7	3333.7	3311.7	3285.4	3260.1	3250.5	3260.1	3285.4
24.5°	3145.7	3157.2	3182.1	3208.4	3234.7	3208.4	3182.1	3157.2	3145.7	3157.2	3182.1
25°	3051.5	3063.5	3086.9	3109.4	3134.3	3109.4	3086.9	3063.5	3051.5	3063.5	3086.9
25.5°	2970.7	2975.9	2995.1	3014.2	3035.7	3014.2	2995.1	2975.9	2970.7	2975.9	2995.1
26°	2890.8	2895.6	2908.0	2926.2	2939.1	2926.2	2908.0	2895.6	2890.8	2895.6	2908.0
26.5°	2808.0	2815.2	2830.0	2845.8	2853.9	2845.8	2830.0	2815.2	2808.0	2815.2	2830.0
27°	2728.1	2736.7	2755.9	2773.1	2781.2	2773.1	2755.9	2736.7	2728.1	2736.7	2755.9
27.5°	2654.9	2663.1	2681.7	2699.9	2711.4	2699.9	2681.7	2663.1	2654.9	2663.1	2681.7
28°	2587.5	2594.2	2609.5	2626.2	2635.8	2626.2	2609.5	2594.2	2587.5	2594.2	2609.5
28.5°	2523.4	2529.1	2542.0	2555.9	2566.4	2555.9	2542.0	2529.1	2523.4	2529.1	2542.0
29°	2461.2	2466.0	2478.4	2491.8	2498.5	2491.8	2478.4	2466.0	2461.2	2466.0	2478.4
29.5°	2399.0	2404.3	2416.7	2429.1	2435.4	2429.1	2416.7	2404.3	2399.0	2404.3	2416.7
30°	2339.2	2344.0	2356.0	2367.9	2375.1	2367.9	2356.0	2344.0	2339.2	2344.0	2356.0
30.5°	2281.3	2285.2	2297.6	2309.6	2316.7	2309.6	2297.6	2285.2	2281.3	2285.2	2297.6
31°	2224.4	2230.6	2241.6	2254.1	2260.3	2254.1	2241.6	2230.6	2224.4	2230.6	2241.6
31.5°	2172.3	2176.1	2188.0	2199.5	2207.2	2199.5	2188.0	2176.1	2172.3	2176.1	2188.0
32°	2120.6	2125.4	2136.4	2147.4	2154.1	2147.4	2136.4	2125.4	2120.6	2125.4	2136.4
32.5°	2072.8	2077.5	2087.6	2095.2	2099.1	2095.2	2087.6	2077.5	2072.8	2077.5	2087.6
33°	2028.3	2030.7	2036.9	2040.7	2040.2	2040.7	2036.9	2030.7	2028.3	2030.7	2036.9
33.5°	1982.4	1981.9	1982.4	1982.4	1981.4	1982.4	1982.4	1981.9	1982.4	1981.9	1982.4
34°	1931.2	1927.8	1924.0	1929.3	1918.7	1929.3	1924.0	1927.8	1931.2	1927.8	1924.0
34.5°	1872.3	1871.4	1870.4	1866.6	1857.0	1866.6	1870.4	1871.4	1872.3	1871.4	1870.4
35°	1811.1	1806.8	1806.8	1803.0	1795.8	1803.0	1806.8	1806.8	1811.1	1806.8	1806.8
35.5°	1748.0	1742.7	1742.7	1736.0	1731.7	1736.0	1742.7	1742.7	1748.0	1742.7	1742.7
36°	1678.6	1675.7	1677.2	1666.2	1665.2	1666.2	1677.2	1675.7	1678.6	1675.7	1677.2
36.5°	1606.8	1606.4	1606.4	1595.8	1593.9	1595.8	1606.4	1606.4	1606.8	1606.4	1606.4
37°	1532.7	1532.7	1533.2	1525.0	1521.7	1525.0	1533.2	1532.7	1532.7	1532.7	1533.2
37.5°	1458.5	1457.1	1463.3	1453.3	1450.9	1453.3	1463.3	1457.1	1458.5	1457.1	1463.3
38°	1383.0	1379.6	1381.5	1378.7	1379.1	1378.7	1381.5	1379.6	1383.0	1379.6	1381.5
38.5°	1304.0	1301.2	1300.2	1304.5	1305.9	1304.5	1300.2	1301.2	1304.0	1301.2	1300.2
39°	1224.1	1222.7	1220.3	1229.9	1230.4	1229.9	1220.3	1222.7	1224.1	1222.7	1220.3
39.5°	1142.8	1142.8	1142.8	1154.8	1157.6	1154.8	1142.8	1142.8	1142.8	1142.8	1142.8
40°	1062.5	1064.8	1069.6	1080.2	1084.9	1080.2	1069.6	1064.8	1062.5	1064.8	1069.6
40.5°	983.5	986.4	996.9	1005.0	1013.7	1005.0	996.9	986.4	983.5	986.4	996.9
41°	905.5	909.9	923.7	932.3	941.4	932.3	923.7	909.9	905.5	909.9	923.7
41.5°	827.6	834.7	851.0	860.6	871.1	860.6	851.0	834.7	827.6	834.7	851.0
42°	752.9	761.1	780.2	791.2	801.3	791.2	780.2	761.1	752.9	761.1	780.2
42.5°	680.7	689.8	711.3	725.7	734.8	725.7	711.3	689.8	680.7	689.8	711.3
43°	610.4	623.3	645.3	661.6	669.2	661.6	645.3	623.3	610.4	623.3	645.3
43.5°	544.4	559.7	581.2	598.9	605.6	598.9	581.2	559.7	544.4	559.7	581.2



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CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	373.6	381.7	401.3	424.8	433.4	424.8	401.3	381.7	373.6	381.7	401.3
45.5°	321.9	330.1	349.7	373.1	382.7	373.1	349.7	330.1	321.9	330.1	349.7
46°	272.2	282.2	302.3	326.2	341.6	326.2	302.3	282.2	272.2	282.2	302.3
46.5°	230.1	237.7	260.7	283.2	300.4	283.2	260.7	237.7	230.1	237.7	260.7
47°	192.8	201.4	221.5	242.1	259.3	242.1	221.5	201.4	192.8	201.4	221.5
47.5°	159.8	166.9	184.2	201.9	218.1	201.9	184.2	166.9	159.8	166.9	184.2
48°	132.5	136.8	151.2	165.5	177.0	165.5	151.2	136.8	132.5	136.8	151.2
48.5°	107.2	112.4	122.0	134.9	144.9	134.9	122.0	112.4	107.2	112.4	122.0
49°	83.7	89.5	99.5	107.6	116.2	107.6	99.5	89.5	83.7	89.5	99.5
49.5°	65.5	69.8	78.5	86.1	92.3	86.1	78.5	69.8	65.5	69.8	78.5
50°	50.7	53.6	59.8	66.5	71.3	66.5	59.8	53.6	50.7	53.6	59.8
50.5°	37.8	38.3	45.4	52.1	55.5	52.1	45.4	38.3	37.8	38.3	45.4
51°	26.3	28.2	34.0	41.1	46.9	41.1	34.0	28.2	26.3	28.2	34.0
51.5°	17.2	21.0	26.3	31.1	38.7	31.1	26.3	21.0	17.2	21.0	26.3
52°	14.8	15.8	19.6	23.9	30.1	23.9	19.6	15.8	14.8	15.8	19.6
52.5°	13.4	13.9	14.4	18.2	22.0	18.2	14.4	13.9	13.4	13.9	14.4
53°	12.4	12.9	12.9	13.9	13.9	13.9	12.9	12.9	12.4	12.9	12.9
53.5°	11.5	12.0	12.4	12.4	12.0	12.4	12.4	12.0	11.5	12.0	12.4
54°	11.0	11.0	11.5	11.5	11.0	11.5	11.5	11.0	11.0	11.0	11.5
54.5°	10.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.0	10.5	10.5
55°	9.6	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.6	10.0	10.0
55.5°	9.1	9.1	9.6	9.6	9.6	9.6	9.6	9.1	9.1	9.1	9.6
56°	8.6	8.6	9.1	9.1	9.1	9.1	9.1	8.6	8.6	8.6	9.1
56.5°	8.1	8.1	8.6	8.6	8.1	8.6	8.6	8.1	8.1	8.1	8.6
57°	7.7	7.7	8.1	8.1	7.7	8.1	8.1	7.7	7.7	7.7	8.1
57.5°	7.2	7.2	7.7	7.7	7.7	7.7	7.7	7.2	7.2	7.2	7.7
58°	6.7	6.7	7.2	7.2	7.2	7.2	7.2	6.7	6.7	6.7	7.2
58.5°	6.2	6.2	6.7	6.7	6.7	6.7	6.7	6.2	6.2	6.2	6.7
59°	5.7	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.7	6.2	6.2
59.5°	5.3	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.3	5.7	5.7
60°	5.3	5.3	5.7	5.7	5.3	5.7	5.7	5.3	5.3	5.3	5.7
60.5°	4.8	4.8	5.3	5.3	5.3	5.3	5.3	4.8	4.8	4.8	5.3
61°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
61.5°	4.3	4.3	4.8	4.8	4.8	4.8	4.8	4.3	4.3	4.3	4.8
62°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
62.5°	3.8	3.8	4.3	4.3	4.3	4.3	4.3	3.8	3.8	3.8	4.3
63°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
63.5°	3.3	3.3	3.8	3.8	3.8	3.8	3.8	3.3	3.3	3.3	3.8
64°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
64.5°	2.9	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9	3.3	3.3
65°	2.9	2.9	3.3	3.3	2.9	3.3	3.3	2.9	2.9	2.9	3.3
65.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
66°	2.4	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.4	2.9	2.9





TEST NUMBER: P776778

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
68°	1.9	1.9	2.4	2.4	2.4	2.4	2.4	1.9	1.9	1.9	2.4
68.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
69°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
69.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
70°	1.4	1.4	1.9	1.9	1.9	1.9	1.9	1.4	1.4	1.4	1.9
70.5°	1.4	1.4	1.4	1.9	1.4	1.9	1.4	1.4	1.4	1.4	1.4
71°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
71.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
72°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
72.5°	1.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.4	1.4
73°	1.0	1.0	1.4	1.4	1.4	1.4	1.4	1.0	1.0	1.0	1.4
73.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
74°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
74.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
76°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
76.5°	0.5	0.5	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5	1.0
77°	0.5	0.5	0.5	1.0	1.0	1.0	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5
82.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
83°	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776778

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776778

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	8848.3	8848.3	8848.3	8848.3	8848.3	8848.3
0.5°	<i>8848.8</i>	<i>8840.2</i>	<i>8848.8</i>	<i>8846.9</i>	<i>8842.1</i>	<i>8840.2</i>
1°	8838.8	8830.2	8838.8	8835.4	8830.6	8828.3
1.5°	8821.1	8812.5	8821.1	8817.2	8811.0	8808.2
2°	8796.7	8788.5	8796.7	8791.9	8783.8	8781.4
2.5°	8764.6	8757.0	8764.6	8758.9	8749.3	8744.5
3°	8726.4	8719.2	8726.4	8719.2	8707.7	8702.9
3.5°	8680.9	8675.7	8680.9	8671.8	8658.9	8653.2
4°	8628.8	8624.0	8628.8	8617.8	8602.5	8595.3
4.5°	8569.9	8565.2	8569.9	8556.5	8538.4	8531.7
5°	8504.4	8500.1	8504.4	8488.6	8468.5	8461.3
5.5°	8430.7	8428.8	8430.7	8412.6	8391.5	8383.8
6°	8351.3	8351.8	8351.3	8330.3	8307.3	8299.2
6.5°	8266.2	8267.6	8266.2	8242.7	8217.4	8210.7
7°	8174.3	8179.6	8174.3	8148.0	8121.7	8114.1
7.5°	8073.9	8081.5	8073.9	8046.1	8018.9	8012.6
8°	7969.6	7979.2	7969.6	7939.4	7910.7	7903.6
8.5°	7859.6	7870.6	7859.6	7825.6	7796.9	7790.7
9°	7744.3	7756.7	7744.3	7707.9	7677.8	7669.6
9.5°	7621.8	7636.2	7621.8	7583.5	7554.8	7546.2
10°	7497.9	7509.9	7497.9	7456.3	7426.6	7417.1
10.5°	7367.8	7379.3	7367.8	7323.8	7293.2	7283.6
11°	7233.4	7243.4	7233.4	7187.5	7156.4	7141.1
11.5°	7091.8	7103.7	7091.8	7047.3	7016.2	7003.8
12°	6949.7	6960.7	6949.7	6904.7	6872.7	6857.9
12.5°	6801.9	6811.5	6801.9	6759.3	6726.8	6711.5
13°	6656.0	6663.6	6656.0	6613.4	6578.5	6561.3
13.5°	6502.0	6513.0	6502.0	6464.6	6428.3	6411.1
14°	6346.5	6358.4	6346.5	6312.5	6275.7	6257.0
14.5°	6190.1	6200.1	6190.1	6158.0	6120.7	6101.6
15°	6034.6	6041.8	6034.6	6002.1	5965.2	5945.6
15.5°	5876.3	5887.3	5876.3	5845.2	5808.3	5789.2
16°	5718.4	5731.3	5718.4	5687.3	5650.5	5633.7
16.5°	5561.5	5575.4	5561.5	5531.4	5494.5	5480.2
17°	5407.0	5417.5	5407.0	5371.6	5338.1	5322.3
17.5°	5250.1	5262.5	5250.1	5214.2	5180.7	5164.9
18°	5093.2	5105.6	5093.2	5058.2	5022.4	5010.4
18.5°	4933.9	4947.3	4933.9	4899.9	4867.9	4855.9
19°	4772.7	4788.0	4772.7	4744.0	4712.4	4700.9
19.5°	4608.6	4620.5	4608.6	4584.2	4558.4	4545.9
20°	4442.6	4443.1	4442.6	4419.1	4398.6	4388.1
20.5°	4279.0	4276.1	4279.0	4257.0	4235.0	4228.3
21°	4118.7	4118.3	4118.7	4097.2	4076.2	4065.2



TEST NUMBER: P776778

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3679.1	3694.4	3679.1	3644.2	3625.1	3611.7
23°	3543.7	3561.0	3543.7	3514.1	3491.1	3481.1
23.5°	3419.4	3436.1	3419.4	3395.0	3376.8	3351.9
24°	3311.7	3333.7	3311.7	3285.4	3260.1	3250.5
24.5°	3208.4	3234.7	3208.4	3182.1	3157.2	3145.7
25°	3109.4	3134.3	3109.4	3086.9	3063.5	3051.5
25.5°	3014.2	3035.7	3014.2	2995.1	2975.9	2970.7
26°	2926.2	2939.1	2926.2	2908.0	2895.6	2890.8
26.5°	2845.8	2853.9	2845.8	2830.0	2815.2	2808.0
27°	2773.1	2781.2	2773.1	2755.9	2736.7	2728.1
27.5°	2699.9	2711.4	2699.9	2681.7	2663.1	2654.9
28°	2626.2	2635.8	2626.2	2609.5	2594.2	2587.5
28.5°	2555.9	2566.4	2555.9	2542.0	2529.1	2523.4
29°	2491.8	2498.5	2491.8	2478.4	2466.0	2461.2
29.5°	2429.1	2435.4	2429.1	2416.7	2404.3	2399.0
30°	2367.9	2375.1	2367.9	2356.0	2344.0	2339.2
30.5°	2309.6	2316.7	2309.6	2297.6	2285.2	2281.3
31°	2254.1	2260.3	2254.1	2241.6	2230.6	2224.4
31.5°	2199.5	2207.2	2199.5	2188.0	2176.1	2172.3
32°	2147.4	2154.1	2147.4	2136.4	2125.4	2120.6
32.5°	2095.2	2099.1	2095.2	2087.6	2077.5	2072.8
33°	2040.7	2040.2	2040.7	2036.9	2030.7	2028.3
33.5°	1982.4	1981.4	1982.4	1982.4	1981.9	1982.4
34°	1929.3	1918.7	1929.3	1924.0	1927.8	1931.2
34.5°	1866.6	1857.0	1866.6	1870.4	1871.4	1872.3
35°	1803.0	1795.8	1803.0	1806.8	1806.8	1811.1
35.5°	1736.0	1731.7	1736.0	1742.7	1742.7	1748.0
36°	1666.2	1665.2	1666.2	1677.2	1675.7	1678.6
36.5°	1595.8	1593.9	1595.8	1606.4	1606.4	1606.8
37°	1525.0	1521.7	1525.0	1533.2	1532.7	1532.7
37.5°	1453.3	1450.9	1453.3	1463.3	1457.1	1458.5
38°	1378.7	1379.1	1378.7	1381.5	1379.6	1383.0
38.5°	1304.5	1305.9	1304.5	1300.2	1301.2	1304.0
39°	1229.9	1230.4	1229.9	1220.3	1222.7	1224.1
39.5°	1154.8	1157.6	1154.8	1142.8	1142.8	1142.8
40°	1080.2	1084.9	1080.2	1069.6	1064.8	1062.5
40.5°	1005.0	1013.7	1005.0	996.9	986.4	983.5
41°	932.3	941.4	932.3	923.7	909.9	905.5
41.5°	860.6	871.1	860.6	851.0	834.7	827.6
42°	791.2	801.3	791.2	780.2	761.1	752.9
42.5°	725.7	734.8	725.7	711.3	689.8	680.7
43°	661.6	669.2	661.6	645.3	623.3	610.4
43.5°	598.9	605.6	598.9	581.2	559.7	544.4



TEST NUMBER: P776778

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	424.8	433.4	424.8	401.3	381.7	373.6
45.5°	373.1	382.7	373.1	349.7	330.1	321.9
46°	326.2	341.6	326.2	302.3	282.2	272.2
46.5°	283.2	300.4	283.2	260.7	237.7	230.1
47°	242.1	259.3	242.1	221.5	201.4	192.8
47.5°	201.9	218.1	201.9	184.2	166.9	159.8
48°	165.5	177.0	165.5	151.2	136.8	132.5
48.5°	134.9	144.9	134.9	122.0	112.4	107.2
49°	107.6	116.2	107.6	99.5	89.5	83.7
49.5°	86.1	92.3	86.1	78.5	69.8	65.5
50°	66.5	71.3	66.5	59.8	53.6	50.7
50.5°	52.1	55.5	52.1	45.4	38.3	37.8
51°	41.1	46.9	41.1	34.0	28.2	26.3
51.5°	31.1	38.7	31.1	26.3	21.0	17.2
52°	23.9	30.1	23.9	19.6	15.8	14.8
52.5°	18.2	22.0	18.2	14.4	13.9	13.4
53°	13.9	13.9	13.9	12.9	12.9	12.4
53.5°	12.4	12.0	12.4	12.4	12.0	11.5
54°	11.5	11.0	11.5	11.5	11.0	11.0
54.5°	10.5	10.5	10.5	10.5	10.5	10.0
55°	10.0	10.0	10.0	10.0	10.0	9.6
55.5°	9.6	9.6	9.6	9.6	9.1	9.1
56°	9.1	9.1	9.1	9.1	8.6	8.6
56.5°	8.6	8.1	8.6	8.6	8.1	8.1
57°	8.1	7.7	8.1	8.1	7.7	7.7
57.5°	7.7	7.7	7.7	7.7	7.2	7.2
58°	7.2	7.2	7.2	7.2	6.7	6.7
58.5°	6.7	6.7	6.7	6.7	6.2	6.2
59°	6.2	6.2	6.2	6.2	6.2	5.7
59.5°	5.7	5.7	5.7	5.7	5.7	5.3
60°	5.7	5.3	5.7	5.7	5.3	5.3
60.5°	5.3	5.3	5.3	5.3	4.8	4.8
61°	4.8	4.8	4.8	4.8	4.8	4.8
61.5°	4.8	4.8	4.8	4.8	4.3	4.3
62°	4.3	4.3	4.3	4.3	4.3	4.3
62.5°	4.3	4.3	4.3	4.3	3.8	3.8
63°	3.8	3.8	3.8	3.8	3.8	3.8
63.5°	3.8	3.8	3.8	3.8	3.3	3.3
64°	3.3	3.3	3.3	3.3	3.3	3.3
64.5°	3.3	3.3	3.3	3.3	3.3	2.9
65°	3.3	2.9	3.3	3.3	2.9	2.9
65.5°	2.9	2.9	2.9	2.9	2.9	2.9
66°	2.9	2.9	2.9	2.9	2.9	2.4



TEST NUMBER: P776778

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.4	2.4	2.4	2.4	2.4	2.4
68°	2.4	2.4	2.4	2.4	1.9	1.9
68.5°	1.9	1.9	1.9	1.9	1.9	1.9
69°	1.9	1.9	1.9	1.9	1.9	1.9
69.5°	1.9	1.9	1.9	1.9	1.9	1.9
70°	1.9	1.9	1.9	1.9	1.4	1.4
70.5°	1.9	1.4	1.9	1.4	1.4	1.4
71°	1.4	1.4	1.4	1.4	1.4	1.4
71.5°	1.4	1.4	1.4	1.4	1.4	1.4
72°	1.4	1.4	1.4	1.4	1.4	1.4
72.5°	1.4	1.4	1.4	1.4	1.4	1.0
73°	1.4	1.4	1.4	1.4	1.0	1.0
73.5°	1.0	1.0	1.0	1.0	1.0	1.0
74°	1.0	1.0	1.0	1.0	1.0	1.0
74.5°	1.0	1.0	1.0	1.0	1.0	1.0
75°	1.0	1.0	1.0	1.0	1.0	1.0
75.5°	1.0	1.0	1.0	1.0	1.0	1.0
76°	1.0	1.0	1.0	1.0	1.0	1.0
76.5°	1.0	1.0	1.0	1.0	0.5	0.5
77°	1.0	1.0	1.0	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.0
82.5°	0.5	0.5	0.5	0.5	0.0	0.0
83°	0.5	0.5	0.5	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776778

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRH-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9



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Cooper Lighting Solutions Photometric Lab  
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Peachtree City, GA 30269

Scaled Data Report





— 0°-180°    - - 45°-225°    - - - - 90°-270°    - · - 135°-315°

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Peachtree City, GA 30269

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	3896.3	3919.7	3943.2	3965.2	3970.9	3965.2	3943.2	3919.7	3896.3	3919.7	3943.2
22°	3749.4	3764.7	3792.0	3814.5	3826.0	3814.5	3792.0	3764.7	3749.4	3764.7	3792.0



44°	484.6	498.0	519.5	537.7	544.9	537.7	519.5	498.0	484.6	498.0	519.5
44.5°	428.1	438.7	458.8	478.4	487.0	478.4	458.8	438.7	428.1	438.7	458.8



66.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
67°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Scaled Data Report



21.5°	3965.2	3970.9	3965.2	3943.2	3919.7	3896.3
22°	3814.5	3826.0	3814.5	3792.0	3764.7	3749.4



44°	537.7	544.9	537.7	519.5	498.0	484.6
44.5°	478.4	487.0	478.4	458.8	438.7	428.1

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66.5°	2.4	2.4	2.4	2.4	2.4	2.4
67°	2.4	2.4	2.4	2.4	2.4	2.4

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Peachtree City, GA 30269

Scaled Data Report



89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Cooper Lighting Solutions Photometric Lab  
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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)