

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: P775772

Luminaire Tested: HCDJBL510CSD-HCD6TRH-1000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775772
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD6TRH-1000lm-3500K
Description: 6 INCH ROUND MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

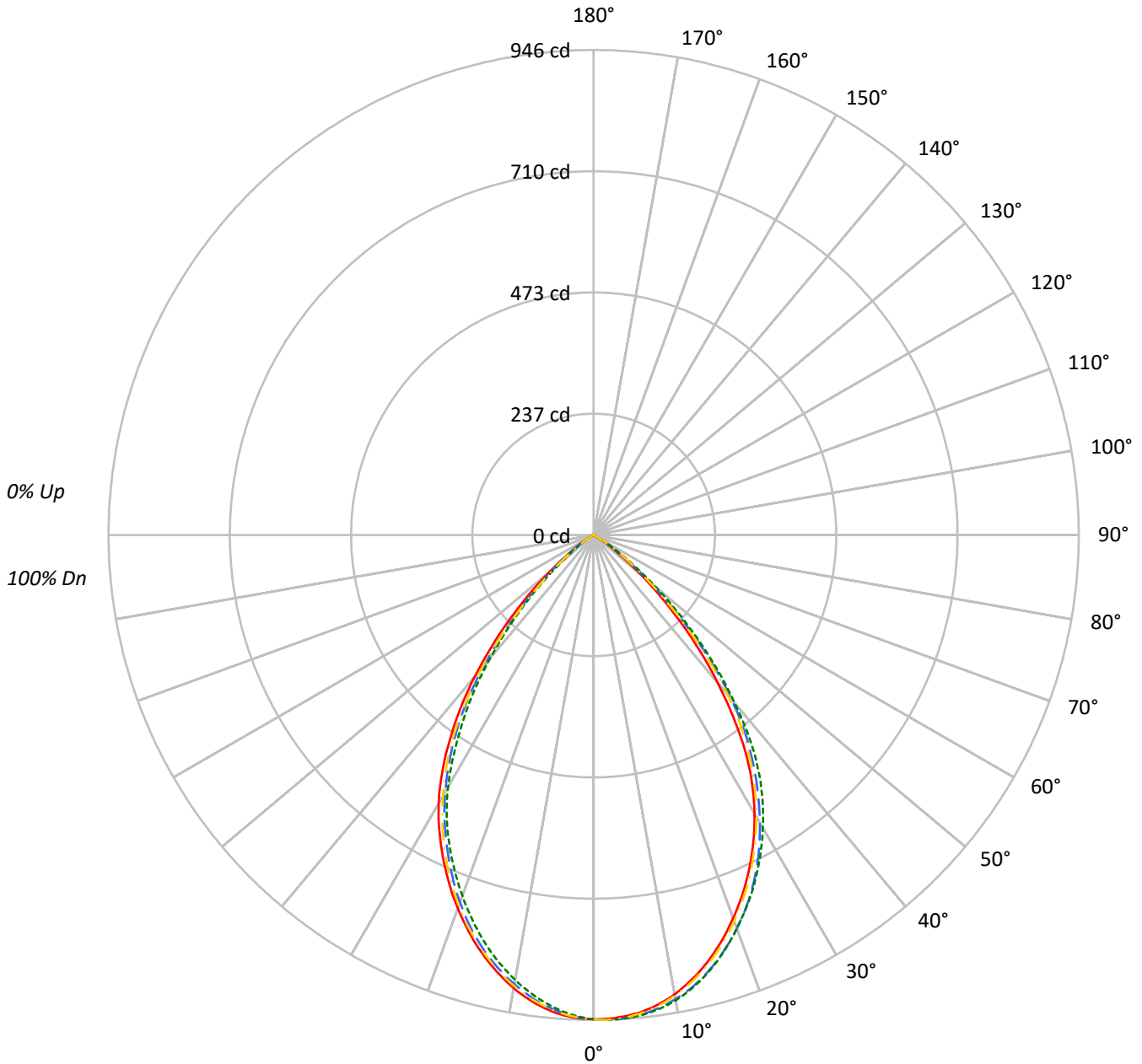
Lumens per Lamp: N/A
Luminaire Lumens: 1188.4 lumens
Efficiency: N/A
Efficacy: 118.8 lumens/watt
Spacing Criteria (0/90/45): 1.02 / 1.02 / 1.06
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): 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



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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					100			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84					84			
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77					77			
4	94	86	80	75	92	85	79	74	82	77	73	80	76	73	78	75	72	70					70			
5	89	79	73	68	87	78	72	68	76	71	67	75	70	66	73	69	66	64					64			
6	83	73	67	62	82	73	66	62	71	65	61	69	65	61	68	64	60	59					59			
7	78	68	61	57	77	67	61	56	66	60	56	65	60	56	64	59	55	54					54			
8	74	63	57	52	73	63	56	52	62	56	52	61	55	51	59	55	51	50					50			
9	70	59	53	48	69	59	52	48	58	52	48	57	51	48	56	51	47	46					46			
10	66	55	49	45	65	55	49	45	54	48	44	53	48	44	52	48	44	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	51805	51805	51805	51805
5°	51574	51887	51343	50825
10°	50645	51313	49971	49075
15°	48865	49858	47883	46686
20°	46420	47662	45212	43672
25°	43418	45045	42027	40291
30°	39702	41772	38246	35974
35°	34479	37457	32766	29801
40°	26879	30622	25834	22385
45°	18428	22227	17723	14389
50°	10149	13432	9705	7070
55°	3880	5897	4196	3011
60°	515	1513	1009	395
65°	65	117	91	65
70°	16	32	32	32
75°	21	21	21	21
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 22227 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.2	7.4
10°-20°	239.2	20.1
20°-30°	323.5	27.2
30°-40°	310.6	26.1
40°-50°	180.9	15.2
50°-60°	44.5	3.7
60°-70°	1.4	0.1
70°-80°	0.1	0.0
80°-90°	0.0	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°	650.9	54.8
0°-40°	961.5	80.9
0°-60°	1186.9	99.9
0°-90°	1188.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1188.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	945	945	945	945	945	
5°	937	943	933	924	937	89
15°	861	878	844	823	861	242
25°	718	745	695	666	718	329
35°	515	560	490	445	515	317
45°	238	287	229	186	238	184
55°	41	62	44	32	41	42
65°	0	1	1	0	0	1
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	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°	945.0	945.0	945.0	945.0	945.0	945.0	945.0	945.0	945.0	945.0	945.0
0.5°	944.8	944.9	945.6	946.2	945.3	945.7	945.9	945.5	944.6	944.2	944.3
1°	944.6	945.0	946.0	946.8	945.9	946.1	946.1	945.4	944.2	943.3	943.5
1.5°	944.3	945.0	946.1	947.1	946.2	946.5	946.0	945.1	943.8	942.5	942.3
2°	943.8	944.9	946.1	947.1	946.5	946.5	945.9	944.6	942.7	941.5	941.0
2.5°	943.8	944.5	945.8	946.9	946.2	946.1	945.4	943.9	941.9	940.1	939.3
3°	942.2	943.9	945.5	946.6	946.0	945.8	944.7	942.7	940.4	938.6	937.4
3.5°	941.3	943.1	944.9	946.0	945.5	945.0	943.8	941.6	939.0	936.8	935.7
4°	940.1	942.3	944.1	945.3	944.8	944.3	942.7	940.0	937.3	935.0	933.2
4.5°	938.7	941.3	943.0	944.4	944.0	943.2	941.3	938.4	935.5	932.6	930.8
5°	937.2	939.9	941.9	943.3	942.9	942.0	939.7	936.5	933.0	930.1	928.1
5.5°	935.9	938.4	940.7	942.0	941.8	940.7	937.9	934.3	930.4	927.4	925.1
6°	933.5	936.6	939.1	940.6	940.4	939.0	935.8	931.7	927.7	924.5	922.0
6.5°	931.4	934.9	937.3	939.0	938.8	937.1	933.8	929.0	924.7	921.4	918.5
7°	929.1	932.7	935.3	937.2	937.0	935.3	931.2	926.2	921.6	918.0	915.2
7.5°	926.4	930.3	933.1	935.1	935.0	933.1	928.6	922.8	918.0	914.2	911.2
8°	923.5	927.7	930.8	932.7	932.8	930.8	925.8	919.5	914.3	910.4	907.4
8.5°	920.5	924.9	928.2	930.2	930.4	928.1	922.7	916.0	910.5	906.5	903.2
9°	917.1	921.8	925.5	927.5	927.7	925.3	919.6	912.3	906.4	902.3	899.1
9.5°	913.5	918.7	922.4	924.6	924.9	922.4	916.0	908.2	902.3	897.9	894.6
10°	909.8	915.3	919.4	921.5	921.8	919.1	912.4	904.2	897.7	893.4	889.9
10.5°	905.8	911.6	916.0	918.2	918.4	915.7	908.5	899.7	893.1	888.8	885.1
11°	901.6	907.8	912.7	914.7	914.9	911.9	904.5	895.3	888.2	883.9	880.3
11.5°	897.3	903.8	908.8	910.8	911.0	908.0	900.4	890.6	883.1	878.9	875.2
12°	892.4	899.5	905.0	906.8	907.0	903.8	895.8	885.8	878.0	873.7	869.9
12.5°	887.6	895.1	900.7	902.7	902.7	899.4	891.1	880.8	872.7	868.4	864.6
13°	882.8	890.6	896.5	898.6	898.6	895.0	886.6	875.7	867.3	862.9	859.1
13.5°	877.5	885.7	892.0	893.8	893.6	890.0	881.4	870.3	861.5	857.3	853.4
14°	872.3	880.8	887.2	889.2	888.8	885.1	876.3	864.8	855.8	851.4	847.5
14.5°	866.7	875.5	882.2	884.3	883.5	879.8	871.1	859.0	849.9	845.2	841.5
15°	861.0	870.3	877.1	879.2	878.5	874.5	865.4	853.2	843.7	838.8	835.3
15.5°	855.1	864.7	871.8	874.2	872.9	869.0	859.6	847.2	837.4	832.7	828.9
16°	849.1	858.9	866.3	868.5	867.4	863.3	853.9	841.1	831.1	826.2	822.2
16.5°	842.9	853.1	860.5	862.9	861.6	857.3	847.8	834.8	824.5	819.4	815.3
17°	836.6	847.1	854.8	857.2	855.5	851.3	841.6	828.4	817.7	812.3	808.4
17.5°	829.9	841.0	848.8	851.4	849.5	845.1	835.2	821.5	811.0	805.3	801.0
18°	823.4	834.6	842.7	845.2	843.1	838.7	828.9	814.9	803.7	798.0	793.6
18.5°	816.7	828.1	836.3	838.9	836.7	832.3	822.2	807.9	796.7	790.6	786.2
19°	809.7	821.4	830.0	832.6	830.2	825.8	815.3	800.8	789.5	783.3	778.3
19.5°	802.7	814.6	823.3	826.1	823.7	819.0	808.4	793.6	782.5	775.5	770.3
20°	795.7	807.8	816.8	819.5	817.0	811.9	801.6	786.5	775.0	767.7	762.3
20.5°	788.3	800.5	809.9	812.3	809.8	805.1	794.3	779.1	767.5	759.8	754.3
21°	780.9	793.3	803.0	805.5	802.9	797.9	786.8	771.7	760.0	752.0	746.4



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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°	758.3	770.7	781.2	783.5	782.2	775.7	764.3	749.6	736.4	727.6	720.4
23°	750.5	762.8	773.5	776.0	774.8	767.8	756.8	741.6	728.0	719.1	711.7
23.5°	742.6	754.7	765.7	768.2	767.5	759.9	749.3	733.6	719.8	710.4	702.6
24°	734.4	746.8	757.5	760.2	760.1	752.0	741.2	725.5	711.4	701.8	693.7
24.5°	726.2	738.6	749.5	752.3	752.8	745.4	732.8	717.4	703.4	693.1	684.6
25°	717.8	730.3	741.2	744.1	744.7	737.2	724.3	709.2	694.8	684.4	675.8
25.5°	709.4	721.5	732.8	735.6	736.6	728.8	715.8	700.7	686.3	675.5	666.7
26°	701.0	713.1	724.1	727.3	728.6	720.7	707.2	692.4	677.8	666.7	657.7
26.5°	692.1	704.5	715.2	718.7	720.6	712.0	698.3	683.8	669.2	657.8	648.5
27°	683.4	695.4	706.4	710.0	712.4	703.6	689.6	675.3	660.2	648.9	639.4
27.5°	674.3	686.2	697.2	701.2	703.8	694.8	680.8	666.6	651.6	639.8	629.9
28°	665.3	677.0	687.6	692.1	695.2	686.1	671.9	657.7	642.6	630.1	620.2
28.5°	656.0	667.6	678.1	683.0	686.7	677.2	662.9	648.9	633.6	620.4	610.2
29°	646.6	658.1	668.4	673.6	678.0	668.3	653.5	639.7	624.1	610.8	600.1
29.5°	637.0	648.2	658.3	664.2	668.9	659.3	644.2	630.0	614.3	600.7	589.4
30°	627.2	638.1	648.3	654.6	659.9	650.2	634.7	620.4	604.2	590.6	578.9
30.5°	617.3	628.0	638.1	644.4	650.6	640.8	625.1	610.4	594.3	579.9	568.1
31°	607.1	617.6	627.3	634.7	641.6	631.4	615.1	600.3	583.6	569.2	557.1
31.5°	596.7	607.0	617.1	624.4	631.9	621.9	605.1	590.0	572.8	558.5	546.0
32°	585.8	596.1	606.2	614.0	622.3	612.1	595.0	579.4	561.6	547.4	534.6
32.5°	575.1	585.6	595.4	603.3	612.5	602.1	584.7	568.6	550.3	536.1	523.5
33°	564.0	574.5	584.8	592.9	602.6	591.9	574.2	557.3	538.7	524.4	512.3
33.5°	552.5	563.4	574.3	582.2	592.1	581.7	563.6	545.9	526.8	512.7	501.0
34°	540.3	552.0	563.2	571.4	581.9	571.1	552.9	534.4	514.8	501.1	489.5
34.5°	528.0	540.9	552.2	560.5	570.7	560.0	542.2	522.6	502.0	488.7	477.7
35°	515.2	529.2	540.9	549.1	559.7	549.0	531.2	510.5	489.6	476.2	466.0
35.5°	502.3	517.5	530.1	537.9	548.1	538.0	520.3	498.5	477.3	463.9	454.0
36°	488.6	505.6	518.3	526.6	536.5	526.7	509.0	486.4	464.8	451.4	441.5
36.5°	474.8	493.1	507.2	515.3	524.1	515.0	497.3	474.1	452.2	438.6	428.7
37°	460.6	480.4	495.4	503.4	511.4	502.9	485.2	461.8	439.2	425.8	415.2
37.5°	446.5	467.1	483.3	491.1	498.4	490.4	473.1	449.2	426.8	412.7	402.1
38°	431.9	453.5	470.6	478.0	484.9	477.4	460.5	436.7	413.9	399.4	388.2
38.5°	418.0	440.0	458.0	465.7	470.7	464.2	447.6	424.0	401.0	385.9	374.4
39°	403.5	425.9	444.6	452.2	456.8	450.6	434.3	411.3	387.9	372.3	360.6
39.5°	389.5	411.8	431.1	438.7	442.4	436.6	420.7	398.1	374.8	358.7	346.4
40°	375.6	396.9	416.9	424.8	427.9	421.8	406.8	384.7	361.0	344.6	332.1
40.5°	361.7	382.4	403.2	410.5	413.6	406.9	393.0	371.2	347.4	330.7	317.5
41°	347.6	368.7	389.2	395.9	399.3	391.8	378.0	357.6	333.5	316.9	303.0
41.5°	333.7	354.5	374.9	381.4	385.5	376.9	363.4	344.3	319.6	303.8	288.7
42°	319.7	340.2	360.2	372.8	371.4	361.9	348.6	330.1	305.6	290.0	274.6
42.5°	305.7	326.0	345.5	357.0	357.8	347.0	334.0	316.1	292.7	276.6	261.0
43°	291.6	311.8	330.8	341.0	344.1	332.3	319.5	301.8	279.3	263.4	248.0
43.5°	277.7	298.0	316.2	325.0	329.5	317.9	305.0	287.9	266.8	250.3	235.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	237.7	256.7	272.0	280.5	286.7	275.2	261.9	246.4	228.6	212.2	198.8
45.5°	225.1	242.9	257.5	266.7	272.6	260.9	247.9	233.5	216.1	200.1	187.4
46°	212.0	229.5	243.1	252.9	259.0	247.2	234.2	220.1	203.8	188.1	176.3
46.5°	199.2	216.3	228.8	239.3	245.9	233.8	220.4	207.1	191.4	177.0	165.6
47°	186.6	203.1	215.1	225.5	232.7	220.6	207.1	194.0	179.4	165.5	155.2
47.5°	174.4	190.2	202.0	212.1	219.7	207.8	194.2	181.6	167.8	154.9	145.3
48°	162.5	177.6	189.0	199.0	206.8	195.7	181.7	169.0	156.6	144.6	135.9
48.5°	151.1	165.5	176.3	186.2	194.2	183.9	169.7	157.1	145.6	135.0	127.0
49°	139.9	153.6	164.3	173.7	181.7	172.2	157.8	145.4	134.6	125.3	118.4
49.5°	129.2	142.0	152.5	161.6	169.2	161.0	147.0	134.3	124.1	116.2	109.9
50°	119.0	130.5	141.1	149.4	157.5	149.7	136.2	123.8	113.8	107.6	102.1
50.5°	109.0	119.3	129.9	137.8	146.0	139.0	126.0	113.7	104.2	100.1	95.0
51°	99.5	109.0	119.5	126.6	134.9	128.5	116.4	104.3	95.8	92.6	87.8
51.5°	90.2	99.1	109.4	116.0	124.4	118.6	107.2	96.3	87.5	85.0	80.8
52°	81.5	89.9	99.8	106.0	114.2	108.9	99.5	88.3	79.1	77.6	73.6
52.5°	73.2	81.0	90.5	96.1	104.4	100.6	91.8	80.3	70.8	70.1	67.0
53°	65.6	72.9	81.9	86.9	95.6	92.2	84.0	72.3	64.3	63.7	61.1
53.5°	58.3	65.5	73.5	78.3	86.8	83.9	76.2	65.6	58.4	57.9	55.3
54°	51.9	58.5	66.0	70.4	77.9	75.5	68.5	59.5	53.1	52.4	50.0
54.5°	46.0	52.0	58.5	63.0	69.2	67.2	62.1	53.9	48.4	47.1	44.6
55°	40.6	46.2	51.9	56.2	61.7	60.8	56.1	48.9	43.9	42.4	39.8
55.5°	35.4	40.5	45.6	49.9	55.0	54.2	50.4	43.9	39.6	37.6	35.0
56°	31.4	35.3	40.0	44.0	48.8	48.4	45.0	39.5	35.4	33.2	30.7
56.5°	27.2	31.2	35.1	38.4	43.1	42.8	39.8	35.2	31.5	29.1	26.5
57°	23.2	27.1	30.9	34.0	37.8	37.6	35.0	31.1	27.7	25.3	22.8
57.5°	19.2	23.0	26.5	29.6	32.7	32.6	30.5	27.1	24.1	21.8	19.3
58°	15.3	18.9	22.3	25.2	28.2	28.1	26.3	23.5	20.7	18.1	15.4
58.5°	11.6	14.8	18.0	20.8	24.0	23.9	22.5	20.0	17.1	15.4	13.2
59°	8.5	11.2	14.0	16.5	20.0	20.2	18.6	16.2	14.5	12.7	10.8
59.5°	6.2	8.2	10.3	12.3	16.9	17.4	15.7	13.7	11.9	9.9	8.5
60°	4.7	5.9	7.5	9.0	13.8	14.6	12.9	11.2	9.2	7.3	6.2
60.5°	3.4	4.5	5.4	6.4	10.7	11.8	10.0	8.7	6.6	4.6	3.8
61°	2.9	3.8	4.0	4.8	7.6	9.0	7.1	6.2	4.1	3.5	3.0
61.5°	2.4	3.2	3.4	3.5	4.5	6.2	4.4	3.7	3.1	2.8	2.4
62°	1.9	2.6	2.8	3.0	3.3	3.4	3.3	2.8	2.4	2.2	2.0
62.5°	1.3	2.0	2.2	2.5	2.6	2.6	2.5	2.3	1.9	1.8	1.6
63°	1.1	1.5	1.7	2.0	2.1	2.1	2.0	1.8	1.6	1.5	1.3
63.5°	0.9	1.1	1.3	1.5	1.7	1.7	1.6	1.5	1.2	1.2	1.1
64°	0.7	0.9	1.1	1.2	1.3	1.3	1.3	1.2	1.0	1.0	0.9
64.5°	0.6	0.8	0.9	1.0	1.1	1.1	1.0	1.0	0.8	0.8	0.8
65°	0.5	0.7	0.8	0.8	0.9	0.9	0.9	0.8	0.7	0.7	0.7
65.5°	0.5	0.6	0.6	0.7	0.8	0.7	0.7	0.7	0.6	0.6	0.6
66°	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5



TEST NUMBER: P775772

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
68°	0.2	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3
68.5°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
69°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
69.5°	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2
70°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
70.5°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
71°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
71.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
72°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
72.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
73°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
73.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
74°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
74.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
75°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
75.5°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
77°	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	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: P775772

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-1000lm-3500K

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: P775772

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	945.0	945.0	945.0	945.0	945.0	945.0
0.5°	944.7	943.6	944.2	944.7	945.0	944.8
1°	943.7	942.3	943.0	943.9	944.4	944.6
1.5°	942.3	940.9	941.8	942.7	943.9	944.3
2°	940.7	939.1	940.1	941.5	942.7	943.8
2.5°	938.9	937.1	938.2	940.0	941.7	943.8
3°	936.8	934.9	936.2	938.2	940.7	942.2
3.5°	934.5	932.4	933.8	936.4	939.2	941.3
4°	932.2	929.8	931.3	934.3	937.8	940.1
4.5°	929.5	926.8	928.6	932.1	935.9	938.7
5°	926.5	923.6	925.6	929.5	933.9	937.2
5.5°	923.3	920.4	922.4	926.8	931.6	935.9
6°	919.8	916.8	919.2	924.0	929.4	933.5
6.5°	916.2	912.9	915.6	920.8	926.8	931.4
7°	912.5	909.2	911.9	917.5	924.1	929.1
7.5°	908.4	904.9	907.9	914.1	921.1	926.4
8°	904.4	900.5	903.9	910.4	917.9	923.5
8.5°	900.1	895.9	899.5	906.5	914.2	920.5
9°	895.7	891.4	895.0	902.4	910.6	917.1
9.5°	890.8	886.5	890.4	898.1	906.7	913.5
10°	886.1	881.6	885.6	893.7	902.6	909.8
10.5°	881.0	876.2	880.7	889.1	898.4	905.8
11°	875.8	870.8	875.5	884.1	893.9	901.6
11.5°	870.5	865.5	870.1	879.0	889.3	897.3
12°	864.9	859.7	864.6	873.9	884.3	892.4
12.5°	859.4	854.0	859.0	868.4	879.2	887.6
13°	853.4	848.0	853.1	862.9	874.2	882.8
13.5°	847.4	841.8	847.0	857.1	868.7	877.5
14°	841.1	835.6	840.8	851.4	863.2	872.3
14.5°	834.7	829.2	834.5	845.4	857.4	866.7
15°	828.1	822.6	828.0	839.2	851.8	861.0
15.5°	821.6	815.6	821.2	832.7	845.5	855.1
16°	814.7	808.9	814.5	826.4	839.4	849.1
16.5°	807.8	801.7	807.5	820.0	833.1	842.9
17°	800.5	794.6	800.4	813.3	826.7	836.6
17.5°	793.5	787.2	793.2	806.1	819.8	829.9
18°	786.2	779.6	785.9	799.1	812.9	823.4
18.5°	778.7	771.9	778.6	791.8	806.0	816.7
19°	771.2	764.5	770.8	784.4	798.8	809.7
19.5°	763.6	756.7	763.3	777.0	791.5	802.7
20°	756.1	748.6	755.8	769.2	784.1	795.7
20.5°	748.6	740.8	748.0	761.4	776.3	788.3
21°	740.6	732.8	740.1	753.5	768.5	780.9



TEST NUMBER: P775772

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	715.8	708.5	715.8	728.5	744.2	758.3
23°	707.3	700.2	707.3	720.0	735.8	750.5
23.5°	698.9	691.9	699.2	711.6	727.3	742.6
24°	690.2	683.4	690.5	702.9	718.6	734.4
24.5°	681.5	674.9	682.1	693.9	710.1	726.2
25°	672.8	666.1	673.3	685.0	701.4	717.8
25.5°	663.9	657.4	664.6	676.1	692.5	709.4
26°	655.2	648.6	655.4	666.7	683.7	701.0
26.5°	646.1	639.5	646.1	657.7	674.7	692.1
27°	636.8	630.1	636.7	647.9	665.6	683.4
27.5°	627.2	620.8	626.9	638.2	656.2	674.3
28°	617.5	610.6	616.7	628.4	646.7	665.3
28.5°	607.4	600.4	606.9	618.4	637.1	656.0
29°	597.2	590.0	596.5	608.4	627.3	646.6
29.5°	586.8	579.4	585.8	597.9	617.4	637.0
30°	576.1	568.3	574.9	587.6	607.5	627.2
30.5°	565.1	556.5	564.0	576.9	597.0	617.3
31°	553.9	544.7	552.4	566.2	586.5	607.1
31.5°	542.5	532.7	540.8	555.7	576.0	596.7
32°	531.0	520.4	528.6	544.3	565.3	585.8
32.5°	519.0	508.1	516.6	533.4	554.4	575.1
33°	506.8	495.4	504.3	522.2	543.0	564.0
33.5°	494.4	482.9	492.0	510.9	531.7	552.5
34°	481.8	470.3	479.8	499.2	520.0	540.3
34.5°	469.0	457.7	467.2	486.9	508.3	528.0
35°	456.3	445.3	454.5	474.6	495.9	515.2
35.5°	443.6	432.7	442.3	461.9	483.6	502.3
36°	430.6	420.4	429.8	449.1	470.2	488.6
36.5°	417.6	407.9	417.3	435.9	456.7	474.8
37°	404.5	395.1	404.6	421.4	442.7	460.6
37.5°	391.2	382.1	391.6	407.9	429.0	446.5
38°	377.8	369.2	378.3	393.5	414.1	431.9
38.5°	364.1	355.2	364.4	379.6	399.4	418.0
39°	350.7	341.1	350.5	371.6	384.2	403.5
39.5°	337.0	326.9	336.6	355.5	367.0	389.5
40°	323.3	312.8	322.6	339.2	352.7	375.6
40.5°	309.6	299.2	308.8	323.0	338.4	361.7
41°	296.0	286.2	294.3	306.9	324.2	347.6
41.5°	283.1	273.2	280.3	292.6	309.9	333.7
42°	269.4	260.7	266.6	278.2	295.5	319.7
42.5°	256.2	248.0	253.4	264.0	281.4	305.7
43°	243.3	235.4	240.4	249.9	267.0	291.6
43.5°	230.1	222.8	227.0	236.1	253.1	277.7



TEST NUMBER: P775772

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	193.6	185.6	188.6	196.3	213.9	237.7
45.5°	181.9	174.0	176.0	183.8	201.8	225.1
46°	170.5	162.6	164.0	171.9	189.7	212.0
46.5°	159.9	151.1	152.1	160.4	178.4	199.2
47°	148.9	140.2	141.0	149.2	166.8	186.6
47.5°	138.9	129.6	130.3	138.7	156.0	174.4
48°	129.3	119.3	119.9	128.5	145.0	162.5
48.5°	119.9	109.3	110.3	118.9	134.5	151.1
49°	111.1	100.1	101.1	109.8	124.2	139.9
49.5°	102.7	91.1	92.4	101.0	114.6	129.2
50°	95.3	82.9	84.5	92.8	104.9	119.0
50.5°	87.9	75.4	77.0	84.9	96.0	109.0
51°	80.5	68.7	70.2	77.7	87.6	99.5
51.5°	73.1	62.6	63.9	70.6	79.6	90.2
52°	66.8	57.1	58.2	64.3	72.2	81.5
52.5°	60.7	52.1	52.8	58.3	65.1	73.2
53°	54.9	47.3	48.1	52.5	58.4	65.6
53.5°	49.7	43.0	43.4	47.0	52.2	58.3
54°	44.7	38.8	39.0	42.1	46.5	51.9
54.5°	40.0	35.1	35.3	37.3	41.2	46.0
55°	35.6	31.5	31.6	33.4	35.9	40.6
55.5°	31.3	27.9	28.0	29.4	31.9	35.4
56°	27.3	24.2	24.2	25.5	27.9	31.4
56.5°	23.7	20.6	20.5	21.6	23.8	27.2
57°	20.3	16.9	16.8	17.7	19.8	23.2
57.5°	16.6	13.2	13.2	13.9	16.0	19.2
58°	14.1	10.0	9.9	10.6	12.2	15.3
58.5°	11.6	7.6	7.4	7.8	9.1	11.6
59°	9.1	5.6	5.5	5.8	6.7	8.5
59.5°	6.6	4.2	4.1	4.4	5.0	6.2
60°	4.1	3.6	3.5	3.7	3.7	4.7
60.5°	3.2	2.9	2.9	3.1	3.2	3.4
61°	2.6	2.3	2.2	2.6	2.6	2.9
61.5°	2.1	1.7	1.6	2.0	2.1	2.4
62°	1.7	1.3	1.3	1.3	1.6	1.9
62.5°	1.3	1.1	1.0	1.1	1.2	1.3
63°	1.1	0.9	0.9	0.9	1.0	1.1
63.5°	0.9	0.8	0.7	0.7	0.8	0.9
64°	0.8	0.7	0.6	0.6	0.7	0.7
64.5°	0.7	0.6	0.5	0.5	0.6	0.6
65°	0.6	0.5	0.4	0.5	0.5	0.5
65.5°	0.5	0.4	0.4	0.4	0.4	0.5
66°	0.4	0.4	0.3	0.3	0.4	0.4



TEST NUMBER: P775772

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.3	0.3	0.2	0.2	0.3	0.3
68°	0.3	0.2	0.2	0.2	0.2	0.2
68.5°	0.2	0.2	0.2	0.2	0.2	0.2
69°	0.2	0.2	0.2	0.2	0.2	0.2
69.5°	0.2	0.2	0.2	0.2	0.2	0.2
70°	0.2	0.2	0.1	0.1	0.1	0.1
70.5°	0.2	0.1	0.1	0.1	0.1	0.1
71°	0.1	0.1	0.1	0.1	0.1	0.1
71.5°	0.1	0.1	0.1	0.1	0.1	0.1
72°	0.1	0.1	0.1	0.1	0.1	0.1
72.5°	0.1	0.1	0.1	0.1	0.1	0.1
73°	0.1	0.1	0.1	0.1	0.1	0.1
73.5°	0.1	0.1	0.1	0.1	0.1	0.1
74°	0.1	0.1	0.1	0.1	0.1	0.1
74.5°	0.1	0.1	0.1	0.1	0.1	0.1
75°	0.1	0.1	0.1	0.0	0.0	0.1
75.5°	0.1	0.0	0.0	0.0	0.0	0.0
76°	0.1	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	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: P775772

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-1000lm-3500K

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



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

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21.5°	773.4	785.8	796.0	798.3	796.1	790.7	779.4	764.4	752.6	744.3	737.8
22°	765.9	778.4	788.5	791.0	789.0	783.5	771.8	756.9	744.4	736.0	729.3



44°	263.9	284.1	301.5	308.9	315.1	303.7	290.3	273.6	253.5	237.2	222.7
44.5°	250.6	270.4	286.7	294.7	300.8	289.5	276.3	260.0	241.4	224.9	210.9



66.5°	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
67°	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4



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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21.5°	732.3	724.8	732.1	745.2	760.4	773.4
22°	724.1	716.6	724.0	737.0	752.4	765.9



44°	217.7	210.0	214.0	222.6	239.9	263.9
44.5°	205.7	197.6	201.3	209.3	226.8	250.6

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66.5°	0.4	0.3	0.3	0.3	0.3	0.3
67°	0.3	0.3	0.3	0.3	0.3	0.3

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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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(END OF REPORT)