

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: P775787

Luminaire Tested: HCDJBL510CSD-HCD6TRMW-1000lm-3500K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775787  
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-HCD6TRMW-1000lm-3500K  
Description: 6 INCH ROUND MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

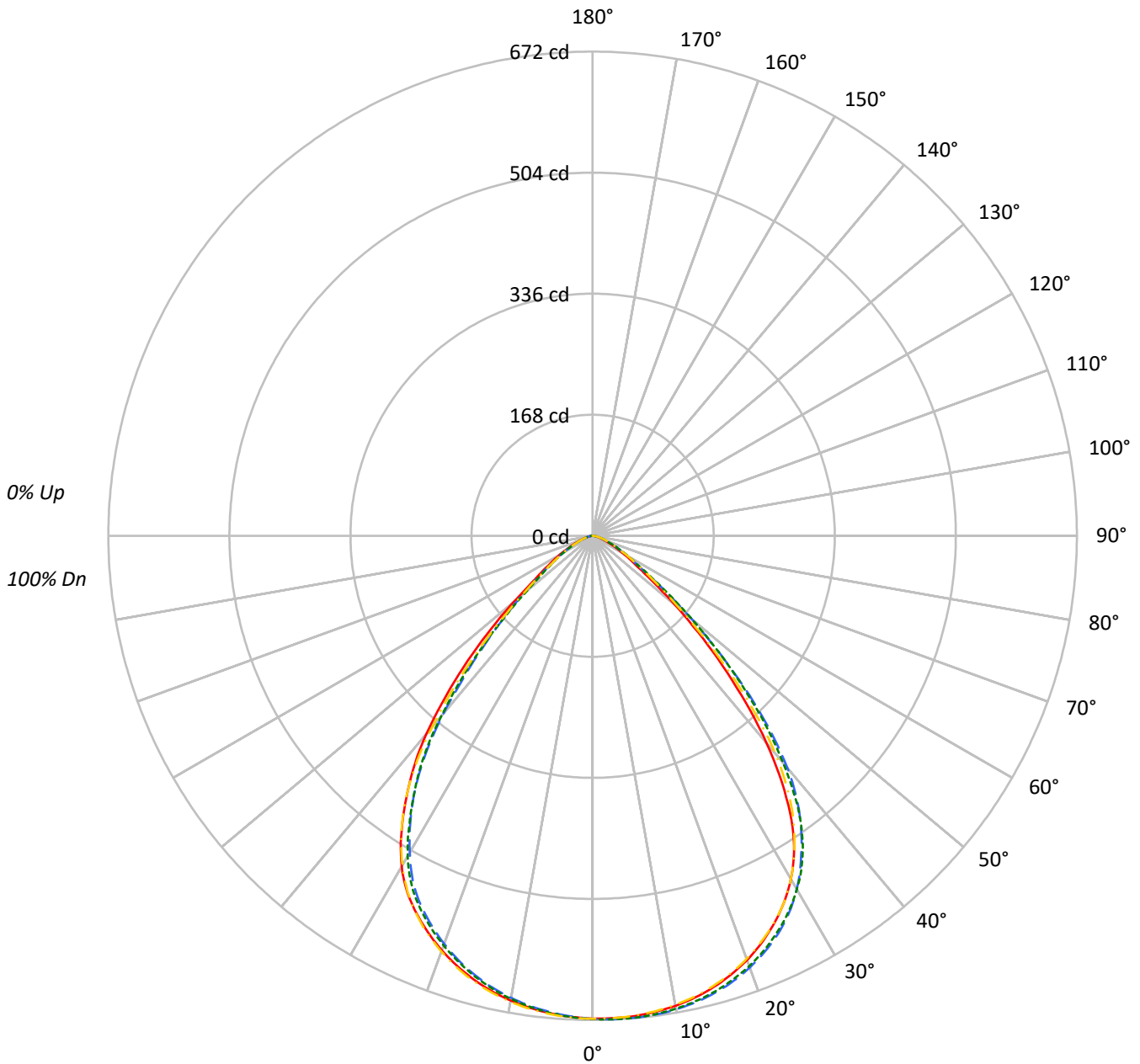
Lumens per Lamp: N/A  
Luminaire Lumens: 1120.1 lumens  
Efficiency: N/A  
Efficacy: 112.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.18  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 10  
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



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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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	112	109	106	103	109	106	104	101	102	100	98	99	97	95	95	94	92	90								
2	105	99	94	89	102	97	92	88	94	90	86	90	87	85	88	85	83	81								
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72								
4	91	82	75	70	89	81	74	69	78	73	69	76	72	68	74	70	67	65								
5	85	75	68	62	83	74	67	62	72	66	62	70	65	61	69	64	60	59								
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53								
7	75	63	56	51	73	63	56	51	61	55	51	60	54	50	59	54	50	48								
8	70	59	51	46	69	58	51	46	57	51	46	56	50	46	55	49	46	44								
9	66	54	47	43	65	54	47	42	53	47	42	52	46	42	51	46	42	40								
10	62	51	44	39	61	50	44	39	49	43	39	48	43	39	48	42	39	37								

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

	0°	90°	180°	270°
0°	36751	36751	36751	36751
5°	36820	36947	36617	36595
10°	36873	37101	36467	36328
15°	36811	37174	36186	35914
20°	36555	37068	35709	35295
25°	35972	36698	34980	34393
30°	34841	35879	33537	32492
35°	32177	33937	30316	28784
40°	26893	29412	25698	23358
45°	19801	22677	18979	16552
50°	12707	15283	12213	10217
55°	7598	9223	7981	6920
60°	5350	6271	5778	5032
65°	3658	4449	4073	3606
70°	2500	3222	2837	2613
75°	1737	2393	2012	1885
80°	1168	1831	1452	1326
85°	503	1447	818	755

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 23359 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.5	5.7
10°-20°	181.4	16.2
20°-30°	269.4	24.0
30°-40°	289.1	25.8
40°-50°	193.7	17.3
50°-60°	78.8	7.0
60°-70°	31.5	2.8
70°-80°	10.8	1.0
80°-90°	2.0	0.2
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°	514.3	45.9
0°-40°	803.3	71.7
0°-60°	1075.9	96.1
0°-90°	1120.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1120.1	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	670	670	670	670	670	
5°	669	671	665	665	669	64
15°	649	655	638	633	649	183
25°	595	607	578	569	595	273
35°	481	507	453	430	481	296
45°	255	292	245	214	255	197
55°	80	96	84	72	80	77
65°	28	34	31	28	28	29
75°	8	11	10	9	8	9
85°	1	2	1	1	1	1
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°	670.4	670.4	670.4	670.4	670.4	670.4	670.4	670.4	670.4	670.4	670.4
0.5°	670.1	670.4	670.8	671.1	671.2	671.1	670.3	669.7	669.8	669.8	670.1
1°	670.3	670.7	671.1	671.4	671.5	671.3	670.3	669.6	669.5	669.4	669.6
1.5°	670.3	670.9	671.4	671.7	671.6	671.3	670.3	669.4	669.3	668.8	669.1
2°	670.2	671.0	671.6	672.0	671.7	671.4	670.2	669.2	668.8	668.3	668.4
2.5°	670.1	671.1	671.7	672.1	671.8	671.4	670.1	668.8	668.4	667.8	667.8
3°	670.0	671.1	671.8	672.2	671.8	671.3	669.9	668.5	668.0	667.2	667.2
3.5°	669.9	671.1	672.0	672.2	671.8	671.2	669.6	668.1	667.4	666.5	666.4
4°	669.7	671.1	671.8	672.2	671.7	671.0	669.3	667.6	666.8	665.7	665.6
4.5°	669.4	670.9	671.8	672.2	671.6	670.8	668.9	667.2	666.2	664.9	664.8
5°	669.1	670.8	671.7	672.0	671.4	670.5	668.4	666.6	665.4	664.1	663.9
5.5°	668.7	670.5	671.5	671.8	671.2	670.1	668.0	665.9	664.7	663.1	662.8
6°	668.2	670.3	671.3	671.6	670.9	669.7	667.5	665.2	663.9	662.2	661.9
6.5°	667.7	669.9	671.0	671.3	670.5	669.3	666.9	664.5	663.0	661.2	660.8
7°	667.2	669.6	670.7	671.0	670.2	668.7	666.2	663.7	662.1	660.0	659.6
7.5°	666.6	669.1	670.3	670.6	669.7	668.1	665.5	662.8	661.1	658.9	658.4
8°	665.8	668.5	669.9	670.2	669.2	667.5	664.7	661.9	660.0	657.7	657.1
8.5°	665.1	668.0	669.4	669.7	668.6	666.9	663.9	660.9	658.8	656.4	655.8
9°	664.2	667.4	668.8	669.2	667.9	666.0	663.0	659.8	657.7	655.1	654.2
9.5°	663.4	666.7	668.1	668.5	667.2	665.3	662.0	658.7	656.4	653.6	652.8
10°	662.4	665.9	667.5	667.8	666.5	664.5	661.0	657.6	655.1	652.1	651.3
10.5°	661.4	665.0	666.7	667.1	665.5	663.5	659.9	656.2	653.7	650.5	649.7
11°	660.2	664.2	665.8	666.3	664.7	662.5	658.8	655.0	652.2	649.0	647.9
11.5°	659.1	663.1	664.9	665.4	663.7	661.4	657.6	653.5	650.6	647.2	646.2
12°	657.8	662.1	664.0	664.4	662.7	660.1	656.2	652.1	649.0	645.3	644.3
12.5°	656.4	660.9	662.9	663.4	661.6	659.0	654.9	650.5	647.3	643.5	642.3
13°	655.1	659.7	661.9	662.3	660.4	657.7	653.4	648.9	645.4	641.5	640.4
13.5°	653.6	658.5	660.7	661.1	659.1	656.3	651.9	647.2	643.6	639.4	638.2
14°	652.1	657.2	659.4	659.8	657.9	654.9	650.3	645.3	641.7	637.2	635.9
14.5°	650.4	655.7	658.1	658.6	656.4	653.3	648.5	643.5	639.6	635.1	633.6
15°	648.6	654.2	656.6	657.2	655.0	651.8	646.8	641.5	637.6	632.8	631.2
15.5°	646.9	652.6	655.1	655.8	653.3	650.1	645.0	639.6	635.3	630.3	628.8
16°	644.9	650.9	653.5	654.1	651.6	648.3	643.2	637.5	633.1	627.8	626.2
16.5°	642.9	649.2	651.9	652.5	650.0	646.5	641.2	635.3	630.7	625.3	623.6
17°	640.8	647.4	650.2	650.8	648.1	644.6	639.1	633.0	628.2	622.6	620.9
17.5°	638.7	645.4	648.3	649.0	646.3	642.5	636.9	630.7	625.7	619.8	618.0
18°	636.4	643.4	646.4	647.1	644.2	640.5	634.7	628.2	623.2	617.0	615.1
18.5°	634.0	641.3	644.4	645.0	642.1	638.3	632.3	625.7	620.6	614.1	612.1
19°	631.7	639.0	642.2	642.9	639.9	636.0	629.9	623.2	617.8	611.2	609.0
19.5°	629.2	636.7	640.0	640.8	637.8	633.6	627.4	620.6	615.0	608.1	605.8
20°	626.6	634.3	637.8	638.6	635.4	631.1	624.8	617.8	612.1	605.0	602.5
20.5°	623.9	631.9	635.3	636.2	633.0	628.6	622.1	615.0	609.1	601.6	599.2
21°	621.0	629.3	632.9	633.7	630.4	626.0	619.3	612.1	606.0	598.4	595.7



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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°	612.0	620.9	624.7	625.9	622.3	617.6	610.5	602.7	596.3	587.7	584.8
23°	608.7	617.9	621.9	623.0	619.3	614.5	607.3	599.5	592.8	584.0	581.0
23.5°	605.2	614.8	618.8	619.9	616.3	611.2	604.0	596.2	589.4	580.3	577.1
24°	601.8	611.6	615.8	616.9	613.2	608.0	600.7	592.7	585.8	576.4	573.0
24.5°	598.3	608.1	612.4	613.7	610.0	604.8	597.4	589.2	582.0	572.5	569.0
25°	594.7	604.7	609.2	610.5	606.7	601.4	593.8	585.6	578.3	568.5	564.8
25.5°	590.8	601.3	605.6	607.0	603.3	597.9	590.2	581.9	574.5	564.2	560.5
26°	587.0	597.7	602.1	603.6	599.7	594.4	586.6	578.1	570.4	559.8	555.8
26.5°	583.0	593.8	598.2	600.0	596.1	590.5	582.6	574.2	566.3	554.9	550.8
27°	578.9	589.8	594.5	596.1	592.3	586.7	578.6	569.9	561.9	549.8	545.6
27.5°	574.4	585.8	590.3	592.2	588.3	582.8	574.4	565.5	557.4	544.6	540.0
28°	570.1	581.4	586.0	588.0	584.3	578.6	569.9	560.8	552.4	539.1	534.1
28.5°	565.2	576.8	581.2	583.7	580.4	574.4	565.3	556.0	547.2	533.4	527.9
29°	560.6	572.1	576.6	579.1	575.9	570.0	560.5	550.8	541.8	527.1	521.3
29.5°	555.5	567.2	571.7	574.4	571.5	565.3	555.5	545.6	536.0	520.8	514.6
30°	550.4	562.1	566.6	569.5	566.8	560.7	550.1	539.9	529.8	514.3	507.6
30.5°	544.7	556.7	561.1	564.4	562.1	555.5	544.6	533.9	523.5	507.4	500.6
31°	539.2	551.2	555.7	559.1	557.1	550.3	539.0	527.7	516.7	500.2	493.1
31.5°	533.1	545.5	549.9	553.4	551.8	544.9	533.0	521.3	509.6	492.7	486.0
32°	526.8	539.3	543.8	547.8	546.4	539.1	527.0	514.4	502.3	485.2	478.4
32.5°	520.1	533.0	537.7	541.7	540.6	533.3	520.6	507.3	494.5	477.2	470.9
33°	513.3	526.5	531.4	535.6	534.6	527.2	514.1	500.0	486.6	469.1	462.9
33.5°	505.9	520.0	524.9	529.2	528.3	520.7	507.4	492.5	478.4	460.7	455.1
34°	497.9	513.0	518.5	522.6	521.7	514.3	500.6	484.6	470.1	451.9	446.5
34.5°	489.4	506.2	511.8	515.9	514.6	506.9	493.6	476.4	461.7	443.2	438.3
35°	480.8	498.6	504.8	508.8	507.1	499.8	486.1	468.2	453.0	434.3	429.4
35.5°	471.8	491.2	497.8	501.6	499.5	492.2	478.6	460.2	444.7	425.2	420.3
36°	462.1	483.3	490.8	494.3	491.3	484.6	470.8	451.5	436.0	415.9	410.6
36.5°	452.0	475.4	483.1	486.8	482.6	476.3	462.5	443.2	427.2	406.3	400.8
37°	441.9	466.8	475.4	478.9	473.5	467.7	453.7	434.4	418.1	396.7	390.4
37.5°	431.3	458.0	467.0	470.6	463.8	458.4	444.7	426.0	409.1	387.2	379.7
38°	420.5	448.6	458.7	462.1	453.7	449.3	435.3	416.8	399.9	376.6	368.9
38.5°	409.5	439.1	449.7	452.9	443.4	439.1	425.7	408.0	390.5	365.9	357.8
39°	398.6	428.9	440.3	443.6	433.1	428.7	415.6	398.2	380.6	354.9	345.9
39.5°	387.3	418.0	430.4	433.7	422.2	417.7	405.2	388.6	370.1	344.2	334.0
40°	375.8	406.5	420.2	423.1	411.0	406.2	394.3	377.8	359.1	332.1	321.7
40.5°	364.2	394.7	409.3	411.9	400.1	394.1	382.9	367.1	347.6	320.4	309.1
41°	352.2	382.6	397.8	400.2	388.8	382.0	371.2	355.5	335.8	308.9	296.8
41.5°	340.1	370.4	386.4	388.1	377.5	369.8	358.9	344.0	324.1	297.4	284.3
42°	327.7	357.9	374.3	375.6	365.7	357.2	346.0	331.4	312.0	285.4	272.6
42.5°	315.2	345.9	362.1	363.1	354.1	344.4	333.6	319.3	300.8	274.1	261.2
43°	302.7	333.8	349.1	350.9	342.2	332.2	321.1	306.8	289.5	262.5	250.0
43.5°	290.6	321.8	336.6	338.5	329.6	319.4	308.6	294.4	278.3	251.4	239.0

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	255.4	285.2	297.7	301.3	292.5	281.7	270.7	258.7	244.8	218.5	207.8
45.5°	244.1	273.0	284.5	289.0	280.1	269.5	258.4	247.0	233.7	208.2	198.2
46°	232.6	261.0	271.3	276.9	268.6	257.3	245.8	235.4	222.8	198.2	188.9
46.5°	221.1	249.1	258.8	264.9	257.0	245.7	233.9	223.8	212.0	188.7	179.6
47°	209.7	236.8	246.2	252.6	245.5	234.3	221.9	212.0	201.3	178.9	171.0
47.5°	198.9	225.2	233.9	240.5	233.8	223.3	210.6	200.8	191.0	170.1	162.8
48°	188.2	213.6	221.9	228.8	222.4	212.6	199.5	189.9	181.0	161.4	154.9
48.5°	177.8	202.3	210.6	217.1	211.3	202.3	189.2	179.3	171.3	153.1	147.0
49°	167.8	191.2	199.4	205.6	200.5	192.0	178.9	169.1	161.3	145.0	139.8
49.5°	158.4	180.3	188.7	194.8	189.7	181.8	169.3	159.3	152.0	137.4	132.7
50°	149.0	169.7	177.8	183.8	179.2	172.1	159.8	150.2	143.2	130.1	126.0
50.5°	140.1	159.4	167.7	173.1	169.0	162.5	151.0	141.5	134.5	123.3	119.6
51°	131.5	149.5	157.9	162.5	159.4	153.4	142.7	133.3	126.4	116.9	113.4
51.5°	123.3	140.0	148.5	152.9	150.0	144.7	134.9	125.8	118.9	110.6	107.5
52°	115.5	131.1	139.3	143.5	141.2	136.0	127.3	118.5	112.2	104.7	102.0
52.5°	108.2	122.8	130.7	134.4	132.3	127.8	120.3	111.9	105.9	99.2	96.9
53°	101.2	115.0	122.6	125.7	124.0	120.4	113.5	105.9	100.5	94.3	92.4
53.5°	95.0	107.7	114.8	117.8	116.1	113.2	107.3	100.3	95.5	89.9	87.9
54°	89.2	100.9	107.6	110.3	108.7	106.5	101.6	95.2	91.5	85.5	83.4
54.5°	84.1	94.8	100.6	103.4	101.7	100.3	96.2	91.1	87.4	81.1	78.9
55°	79.5	89.2	94.2	97.0	96.5	95.2	91.7	87.0	83.5	76.8	74.4
55.5°	75.1	84.1	88.4	91.2	91.3	90.2	87.2	82.9	79.5	73.0	70.8
56°	71.3	79.3	83.0	85.8	86.0	85.3	82.7	78.7	75.4	69.6	67.4
56.5°	67.9	74.8	78.2	80.8	80.7	80.3	78.1	74.6	72.0	66.4	64.5
57°	65.0	70.9	73.9	76.3	75.5	75.3	73.7	71.2	68.8	63.8	62.0
57.5°	62.2	67.4	69.9	72.1	71.7	71.6	70.0	67.9	65.8	61.1	59.4
58°	59.5	64.5	66.7	68.5	68.2	68.1	66.8	65.1	63.2	58.5	56.8
58.5°	56.8	61.7	63.9	65.5	65.4	65.3	64.1	62.5	60.5	55.9	54.1
59°	54.0	59.1	61.2	62.8	62.6	62.6	61.4	59.8	57.9	53.4	51.6
59.5°	51.4	56.3	58.4	60.1	59.9	59.9	58.8	57.1	55.2	50.9	49.2
60°	48.8	53.6	55.6	57.3	57.2	57.1	56.0	54.6	52.7	48.5	46.9
60.5°	46.2	50.9	52.9	54.6	54.4	54.4	53.5	52.0	50.3	46.2	44.7
61°	43.8	48.4	50.3	51.9	51.8	51.8	51.0	49.6	48.0	44.0	42.5
61.5°	41.5	45.9	47.9	49.3	49.1	49.3	48.5	47.2	45.6	42.0	40.5
62°	39.4	43.6	45.4	46.8	46.7	46.8	46.2	45.0	43.3	39.9	38.5
62.5°	37.2	41.4	43.1	44.4	44.3	44.5	43.9	42.8	41.1	37.9	36.7
63°	35.3	39.3	40.9	42.2	42.2	42.3	41.8	40.7	39.1	35.9	34.8
63.5°	33.6	37.0	38.9	40.1	40.0	40.2	39.7	38.7	37.0	34.1	33.2
64°	31.7	35.2	37.1	38.0	38.0	38.1	37.7	36.9	35.0	32.3	31.5
64.5°	29.9	33.5	35.2	36.3	36.2	36.3	35.8	34.9	33.2	30.7	29.9
65°	28.2	31.7	33.5	34.5	34.3	34.5	34.1	33.2	31.4	29.1	28.4
65.5°	26.5	29.9	31.7	32.7	32.5	32.7	32.3	31.5	29.7	27.6	27.0
66°	25.1	28.3	29.9	31.1	30.9	31.1	30.8	29.8	28.1	26.0	25.6





TEST NUMBER: P775787

CATALOG NUMBER: HCDJBL510CSD-HCD6TRMW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	21.0	23.9	25.5	26.3	26.3	26.5	26.3	25.4	23.7	22.1	21.9
68°	19.9	22.7	24.1	25.0	25.0	25.2	25.0	24.0	22.4	20.8	20.7
68.5°	18.6	21.3	22.8	23.6	23.6	23.8	23.6	22.8	21.1	19.7	19.6
69°	17.6	20.2	21.7	22.4	22.4	22.6	22.5	21.5	20.0	18.5	18.5
69.5°	16.6	19.1	20.4	21.1	21.2	21.3	21.2	20.3	18.9	17.5	17.5
70°	15.6	17.9	19.4	20.1	20.1	20.3	20.1	19.3	17.7	16.6	16.6
70.5°	14.7	17.0	18.2	19.0	19.0	19.2	19.1	18.1	16.7	15.5	15.6
71°	13.8	16.0	17.3	17.9	18.0	18.1	18.0	17.2	15.7	14.7	14.8
71.5°	13.0	15.0	16.4	17.0	17.0	17.2	17.1	16.2	14.8	13.8	14.0
72°	12.1	14.2	15.4	16.1	16.1	16.3	16.2	15.2	14.0	13.0	13.2
72.5°	11.4	13.4	14.5	15.1	15.1	15.3	15.2	14.4	13.2	12.2	12.4
73°	10.7	12.5	13.7	14.3	14.3	14.5	14.4	13.5	12.3	11.5	11.7
73.5°	10.0	11.7	13.0	13.5	13.6	13.7	13.6	12.7	11.6	10.8	11.0
74°	9.4	11.0	12.1	12.7	12.7	13.0	12.7	11.9	10.9	10.0	10.4
74.5°	8.8	10.4	11.4	12.0	12.0	12.1	12.0	11.2	10.2	9.4	9.6
75°	8.2	9.7	10.8	11.3	11.3	11.5	11.3	10.6	9.5	8.9	9.0
75.5°	7.7	9.1	10.0	10.6	10.7	10.8	10.7	9.8	8.9	8.3	8.5
76°	7.1	8.5	9.4	9.9	10.0	10.2	9.9	9.2	8.4	7.8	8.0
76.5°	6.6	7.9	8.9	9.3	9.4	9.5	9.3	8.7	7.9	7.1	7.5
77°	6.1	7.4	8.3	8.8	8.8	8.9	8.8	8.2	7.3	6.6	6.9
77.5°	5.7	6.8	7.8	8.2	8.3	8.4	8.3	7.6	6.7	6.1	6.4
78°	5.3	6.3	7.3	7.7	7.8	7.9	7.8	7.0	6.2	5.7	5.9
78.5°	4.9	5.9	6.7	7.1	7.3	7.4	7.1	6.5	5.8	5.3	5.5
79°	4.5	5.5	6.2	6.7	6.7	6.8	6.6	6.0	5.4	4.9	5.1
79.5°	4.0	5.1	5.8	6.2	6.2	6.3	6.2	5.6	5.0	4.5	4.7
80°	3.7	4.7	5.4	5.8	5.8	5.9	5.7	5.1	4.6	4.0	4.2
80.5°	3.4	4.2	5.0	5.4	5.4	5.5	5.3	4.7	4.1	3.7	3.9
81°	3.1	3.8	4.6	5.0	5.0	5.1	4.9	4.4	3.8	3.3	3.5
81.5°	2.7	3.5	4.1	4.6	4.6	4.7	4.6	3.9	3.4	3.0	3.2
82°	2.5	3.2	3.8	4.2	4.2	4.2	4.1	3.5	3.1	2.7	2.9
82.5°	2.2	2.8	3.5	3.8	3.8	3.9	3.8	3.2	2.8	2.4	2.6
83°	1.9	2.5	3.2	3.5	3.5	3.6	3.4	2.9	2.5	2.1	2.3
83.5°	1.7	2.2	2.9	3.2	3.2	3.3	3.1	2.6	2.2	1.8	2.0
84°	1.3	2.0	2.5	2.9	2.9	3.0	2.8	2.3	1.9	1.5	1.8
84.5°	1.1	1.7	2.3	2.6	2.6	2.7	2.5	2.0	1.7	1.2	1.6
85°	0.8	1.3	2.0	2.3	2.3	2.4	2.2	1.7	1.3	0.9	1.2
85.5°	0.6	1.1	1.8	2.1	2.1	2.1	2.0	1.5	1.1	0.8	1.0
86°	0.5	0.9	1.5	1.8	1.8	1.9	1.7	1.2	0.8	0.6	0.8
86.5°	0.4	0.7	1.2	1.6	1.6	1.6	1.5	1.0	0.7	0.5	0.6
87°	0.3	0.6	1.0	1.2	1.2	1.3	1.2	0.8	0.5	0.4	0.4
87.5°	0.2	0.5	0.8	1.0	1.0	1.0	1.0	0.7	0.4	0.3	0.3
88°	0.1	0.3	0.6	0.8	0.8	0.8	0.7	0.5	0.3	0.1	0.1
88.5°	0.0	0.2	0.4	0.6	0.6	0.6	0.5	0.4	0.2	0.0	0.0



TEST NUMBER: P775787

CATALOG NUMBER: HCDJBL510CSD-HCD6TRMW-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: P775787

CATALOG NUMBER: HCDJBL510CSD-HCD6TRMW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	670.4	670.4	670.4	670.4	670.4	670.4
0.5°	670.3	670.6	670.7	670.1	669.8	670.1
1°	669.9	670.2	670.4	670.0	669.8	670.3
1.5°	669.4	669.7	670.1	669.8	669.7	670.3
2°	668.7	669.3	669.6	669.5	669.5	670.2
2.5°	668.1	668.6	669.2	669.2	669.3	670.1
3°	667.4	668.0	668.6	668.7	669.1	670.0
3.5°	666.7	667.4	668.0	668.3	668.7	669.9
4°	665.9	666.6	667.4	667.8	668.4	669.7
4.5°	665.0	665.8	666.7	667.2	668.0	669.4
5°	664.1	665.0	665.8	666.6	667.5	669.1
5.5°	663.0	664.0	665.0	665.9	667.0	668.7
6°	662.0	663.0	664.1	665.1	666.4	668.2
6.5°	661.0	662.0	663.1	664.4	665.7	667.7
7°	659.6	660.8	662.1	663.5	664.9	667.2
7.5°	658.5	659.6	661.1	662.5	664.2	666.6
8°	657.1	658.3	659.9	661.5	663.4	665.8
8.5°	655.8	657.0	658.7	660.5	662.5	665.1
9°	654.3	655.6	657.3	659.3	661.5	664.2
9.5°	652.8	654.1	656.0	658.1	660.5	663.4
10°	651.2	652.6	654.5	656.8	659.3	662.4
10.5°	649.6	651.0	653.1	655.4	658.2	661.4
11°	647.7	649.3	651.4	653.9	656.9	660.2
11.5°	645.9	647.5	649.8	652.4	655.6	659.1
12°	644.0	645.6	647.9	650.8	654.1	657.8
12.5°	642.1	643.7	646.2	649.2	652.7	656.4
13°	639.9	641.7	644.2	647.4	651.1	655.1
13.5°	637.8	639.6	642.2	645.5	649.5	653.6
14°	635.5	637.5	640.1	643.6	647.7	652.1
14.5°	633.2	635.1	638.0	641.6	645.9	650.4
15°	630.8	632.8	635.8	639.5	644.1	648.6
15.5°	628.3	630.4	633.4	637.4	642.0	646.9
16°	625.7	627.8	630.9	635.1	640.0	644.9
16.5°	623.2	625.3	628.4	632.8	637.9	642.9
17°	620.4	622.6	626.0	630.3	635.6	640.8
17.5°	617.7	619.8	623.3	627.8	633.2	638.7
18°	614.6	617.0	620.6	625.3	630.8	636.4
18.5°	611.7	614.1	617.8	622.5	628.2	634.0
19°	608.5	611.1	614.9	619.7	625.6	631.7
19.5°	605.3	608.1	611.9	616.9	623.1	629.2
20°	602.0	605.0	608.9	614.0	620.3	626.6
20.5°	598.7	601.8	605.8	611.0	617.4	623.9
21°	595.3	598.5	602.4	607.8	614.4	621.0



TEST NUMBER: P775787

CATALOG NUMBER: HCDJBL510CSD-HCD6TRMW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	584.4	588.0	592.2	597.9	604.8	612.0
23°	580.6	584.3	588.6	594.4	601.3	608.7
23.5°	576.6	580.4	584.9	590.7	597.8	605.2
24°	572.7	576.5	581.0	586.9	594.1	601.8
24.5°	568.7	572.6	577.2	583.1	590.4	598.3
25°	564.5	568.6	573.1	579.1	586.6	594.7
25.5°	560.2	564.3	569.1	575.1	582.6	590.8
26°	555.4	560.0	564.5	570.7	578.6	587.0
26.5°	550.5	555.2	559.9	566.1	574.5	583.0
27°	545.2	550.3	554.8	561.3	570.1	578.9
27.5°	539.7	544.8	549.6	556.3	565.5	574.4
28°	533.9	539.3	544.1	550.8	560.8	570.1
28.5°	527.8	533.1	538.3	545.5	555.7	565.2
29°	521.4	526.9	532.3	539.9	550.5	560.6
29.5°	514.9	520.2	526.0	534.0	545.1	555.5
30°	507.8	513.3	519.3	527.6	539.4	550.4
30.5°	500.6	505.6	512.4	521.5	533.6	544.7
31°	493.0	498.2	504.9	514.9	527.3	539.2
31.5°	485.5	490.1	497.5	508.3	520.9	533.1
32°	477.3	481.7	489.7	501.1	514.3	526.8
32.5°	469.0	472.9	481.7	494.3	507.3	520.1
33°	460.4	465.0	473.6	487.0	500.0	513.3
33.5°	451.5	456.4	465.1	479.4	492.6	505.9
34°	442.7	447.7	456.7	471.1	485.0	497.9
34.5°	433.7	438.6	448.0	463.0	476.8	489.4
35°	424.3	430.1	439.4	454.4	468.3	480.8
35.5°	415.0	421.4	430.8	445.5	459.6	471.8
36°	405.4	412.5	421.7	435.5	450.2	462.1
36.5°	395.8	403.1	412.6	426.2	440.5	452.0
37°	385.7	393.5	403.1	416.1	429.9	441.9
37.5°	375.4	383.6	393.1	405.7	419.4	431.3
38°	364.9	373.2	382.7	394.7	407.7	420.5
38.5°	353.7	362.1	371.9	383.3	396.3	409.5
39°	342.3	350.5	360.8	371.3	383.5	398.6
39.5°	330.7	338.5	348.8	359.1	371.2	387.3
40°	318.9	326.4	336.9	346.4	358.3	375.8
40.5°	307.3	314.6	324.4	333.8	345.7	364.2
41°	295.5	303.0	312.0	321.0	333.1	352.2
41.5°	283.7	291.7	299.7	308.3	320.3	340.1
42°	272.2	280.6	287.5	295.7	307.5	327.7
42.5°	260.7	269.4	275.3	283.0	295.3	315.2
43°	249.3	258.4	263.5	270.2	282.8	302.7
43.5°	237.9	246.8	251.6	258.0	270.6	290.6



TEST NUMBER: P775787

CATALOG NUMBER: HCDJBL510CSD-HCD6TRMW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	206.1	213.5	216.7	222.1	235.6	255.4
45.5°	196.1	202.6	205.5	210.9	224.8	244.1
46°	186.5	192.3	194.5	200.2	214.2	232.6
46.5°	176.6	182.1	183.7	189.9	203.8	221.1
47°	167.6	172.2	173.4	179.5	193.5	209.7
47.5°	159.0	162.2	163.7	170.1	183.5	198.9
48°	150.9	152.8	154.3	160.9	173.6	188.2
48.5°	142.7	143.8	145.5	152.1	164.4	177.8
49°	135.2	135.3	137.1	143.8	155.1	167.8
49.5°	128.1	127.2	129.2	135.9	146.3	158.4
50°	121.3	119.8	121.8	128.3	137.6	149.0
50.5°	114.7	112.7	114.9	121.0	129.6	140.1
51°	108.9	106.6	108.5	114.4	121.8	131.5
51.5°	103.2	101.1	102.8	108.2	114.7	123.3
52°	97.8	96.1	97.5	102.3	108.1	115.5
52.5°	93.3	91.6	92.5	96.7	101.7	108.2
53°	89.0	87.3	88.1	91.5	95.8	101.2
53.5°	84.6	83.3	83.7	86.6	90.2	95.0
54°	80.2	79.6	79.8	82.1	85.2	89.2
54.5°	75.8	75.9	76.0	77.8	80.5	84.1
55°	72.1	72.4	72.4	73.9	76.3	79.5
55.5°	68.8	69.1	69.1	70.1	72.2	75.1
56°	65.8	66.1	66.1	66.9	68.6	71.3
56.5°	63.1	63.5	63.4	64.1	65.6	67.9
57°	60.5	60.8	60.8	61.4	62.9	65.0
57.5°	57.9	58.2	58.1	58.7	60.2	62.2
58°	55.3	55.6	55.5	56.0	57.5	59.5
58.5°	52.7	53.0	52.8	53.5	54.7	56.8
59°	50.3	50.6	50.5	50.9	52.0	54.0
59.5°	48.0	48.3	48.1	48.4	49.5	51.4
60°	45.6	45.9	45.7	46.1	47.1	48.8
60.5°	43.5	43.7	43.5	43.8	44.8	46.2
61°	41.4	41.6	41.3	41.6	42.5	43.8
61.5°	39.4	39.6	39.4	39.7	40.4	41.5
62°	37.5	37.7	37.4	37.7	38.4	39.4
62.5°	35.6	36.1	35.6	35.9	36.6	37.2
63°	33.9	34.4	34.0	34.3	34.8	35.3
63.5°	32.2	32.6	32.3	32.5	33.0	33.6
64°	30.7	31.0	30.7	30.9	31.3	31.7
64.5°	29.1	29.2	29.0	29.1	29.5	29.9
65°	27.7	27.8	27.6	27.7	28.0	28.2
65.5°	26.2	26.3	26.1	26.2	26.4	26.5
66°	24.9	25.0	24.8	24.9	25.0	25.1



TEST NUMBER: P775787

CATALOG NUMBER: HCDJBL510CSD-HCD6TRMW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	21.2	21.3	21.1	21.1	21.1	21.0
68°	20.1	20.2	20.0	20.1	19.9	19.9
68.5°	19.1	19.2	19.0	19.0	18.9	18.6
69°	18.0	18.1	17.9	18.0	17.7	17.6
69.5°	17.1	17.2	17.0	17.0	16.8	16.6
70°	16.2	16.3	16.1	16.1	15.7	15.6
70.5°	15.2	15.3	15.1	15.1	14.8	14.7
71°	14.4	14.5	14.3	14.3	14.0	13.8
71.5°	13.6	13.7	13.5	13.5	13.2	13.0
72°	12.8	12.8	12.7	12.7	12.3	12.1
72.5°	12.1	12.1	12.0	12.0	11.6	11.4
73°	11.4	11.4	11.3	11.3	10.9	10.7
73.5°	10.7	10.8	10.6	10.6	10.2	10.0
74°	10.0	10.0	9.9	9.9	9.5	9.4
74.5°	9.4	9.4	9.3	9.3	8.9	8.8
75°	8.9	8.9	8.8	8.7	8.4	8.2
75.5°	8.4	8.3	8.2	8.2	7.8	7.7
76°	7.9	7.8	7.7	7.6	7.3	7.1
76.5°	7.4	7.3	7.1	7.1	6.7	6.6
77°	6.8	6.8	6.7	6.6	6.2	6.1
77.5°	6.3	6.3	6.2	6.1	5.8	5.7
78°	5.8	5.9	5.8	5.7	5.3	5.3
78.5°	5.4	5.5	5.4	5.3	4.9	4.9
79°	5.0	5.1	5.0	4.9	4.6	4.5
79.5°	4.7	4.7	4.6	4.5	4.1	4.0
80°	4.2	4.2	4.2	4.0	3.7	3.7
80.5°	3.8	3.9	3.8	3.7	3.4	3.4
81°	3.5	3.6	3.5	3.4	3.1	3.1
81.5°	3.2	3.3	3.2	3.1	2.7	2.7
82°	2.9	3.0	2.9	2.8	2.4	2.5
82.5°	2.6	2.6	2.6	2.5	2.1	2.2
83°	2.3	2.4	2.3	2.2	1.8	1.9
83.5°	2.1	2.1	2.0	1.9	1.6	1.7
84°	1.8	1.8	1.8	1.7	1.3	1.3
84.5°	1.6	1.6	1.5	1.5	1.0	1.1
85°	1.2	1.2	1.2	1.2	0.9	0.8
85.5°	1.0	1.0	1.0	0.9	0.7	0.6
86°	0.8	0.8	0.8	0.7	0.6	0.5
86.5°	0.6	0.6	0.5	0.5	0.4	0.4
87°	0.3	0.4	0.3	0.3	0.3	0.3
87.5°	0.1	0.2	0.1	0.2	0.2	0.2
88°	0.0	0.0	0.0	0.0	0.1	0.1
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775787

CATALOG NUMBER: HCDJBL510CSD-HCD6TRMW-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°	618.1	626.6	630.2	631.2	627.8	623.3	616.5	609.1	602.9	594.9	592.2
22°	615.1	623.8	627.6	628.5	625.1	620.5	613.5	606.0	599.6	591.4	588.6



44°	278.7	309.7	323.5	326.1	317.0	306.9	295.8	282.2	267.2	239.9	228.3
44.5°	267.0	297.2	310.7	313.7	304.5	294.3	282.8	270.5	255.9	229.3	218.1



66.5°	23.6	26.8	28.3	29.3	29.2	29.4	29.2	28.3	26.5	24.7	24.3
67°	22.3	25.3	26.8	27.8	27.8	28.0	27.7	26.8	25.1	23.3	23.1



89°	0.0	0.1	0.2	0.4	0.4	0.4	0.3	0.2	0.1	0.0	0.0
89.5°	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0



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21.5°	591.8	595.1	599.1	604.6	611.2	618.1
22°	588.1	591.6	595.6	601.3	608.1	615.1



44°	227.1	235.5	239.9	245.9	258.6	278.7
44.5°	216.5	224.5	228.1	234.0	247.0	267.0

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66.5°	23.6	23.7	23.5	23.6	23.6	23.6
67°	22.4	22.5	22.3	22.4	22.4	22.3

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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)