

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: P775681

Luminaire Tested: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775681
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-HCD4TRMB-1000lm-3000K
Description: 4 INCH ROUND MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

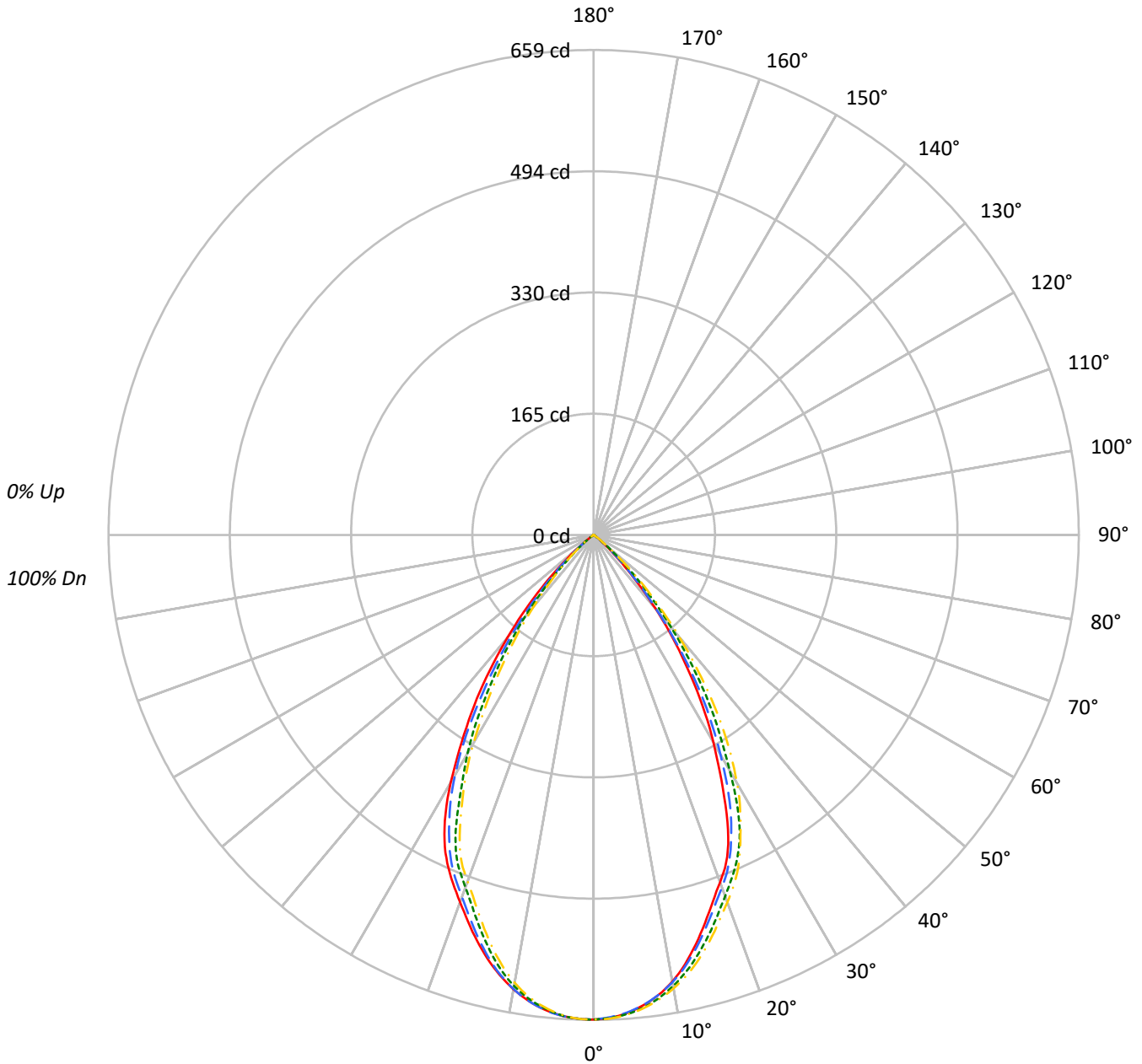
Lumens per Lamp: N/A
Luminaire Lumens: 646.5 lumens
Efficiency: N/A
Efficacy: 64.6 lumens/watt
Spacing Criteria (0/90/45): 0.95 / 0.95 / 0.94
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): 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: P775681
CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	98	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86								
3	102	95	90	86	100	94	89	85	91	87	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	82	78	85	81	77	83	80	76	82	78	76	74								
5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	69								
6	87	77	71	67	85	77	71	67	75	70	66	74	69	66	72	68	65	64								
7	82	72	66	62	81	72	66	62	70	65	61	69	65	61	68	64	61	59								
8	78	68	62	58	77	67	62	57	66	61	57	65	60	57	64	60	57	55								
9	74	64	58	54	73	63	58	54	62	57	53	62	57	53	61	56	53	52								
10	70	60	54	50	69	60	54	50	59	54	50	58	53	50	57	53	50	48								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	82872	82872	82872	82872
5°	81786	82064	82317	82165
10°	78732	79512	80112	79537
15°	73105	75125	76141	74278
20°	67245	69950	71061	68236
25°	59710	64848	66125	61557
30°	47258	53623	56369	49786
35°	34353	40821	43463	36596
40°	21505	26959	29900	23641
45°	9718	14452	16641	11106
50°	2819	4425	5756	3309
55°	439	439	614	570
60°	176	176	201	176
65°	119	119	119	119
70°	74	110	110	110
75°	49	97	49	97
80°	0	72	72	72
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 180°
 Vertical Angle: 45°
 Luminance: 16641 cd/sqm



TEST NUMBER: P775681

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.1	9.5
10°-20°	160.4	24.8
20°-30°	204.7	31.7
30°-40°	156.5	24.2
40°-50°	58.5	9.0
50°-60°	4.8	0.7
60°-70°	0.4	0.1
70°-80°	0.2	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°	426.1	65.9
0°-40°	582.6	90.1
0°-60°	645.8	99.9
0°-90°	646.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	646.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	658	658	658	658	658	
5°	647	650	652	650	647	61
15°	561	577	584	570	561	157
25°	430	467	476	443	430	193
35°	224	266	283	238	224	139
45°	55	81	94	62	55	46
55°	2	2	3	3	2	3
65°	0	0	0	0	0	0
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°	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5
0.5°	658.3	657.8	657.8	657.8	658.3	658.4	658.7	658.9	658.6	658.3	658.3
1°	657.9	657.4	657.3	657.4	657.9	658.1	658.4	658.6	658.5	658.3	658.2
1.5°	657.3	656.7	656.6	656.7	657.4	657.7	658.0	658.3	658.1	658.0	658.1
2°	656.5	655.9	655.7	655.9	656.8	657.1	657.4	657.7	657.7	657.6	657.7
2.5°	655.5	654.7	654.6	655.0	656.0	656.3	656.6	657.0	657.1	657.0	657.1
3°	654.2	653.5	653.4	653.8	655.0	655.4	655.7	656.1	656.3	656.3	656.4
3.5°	652.8	652.0	652.1	652.6	653.8	654.2	654.6	655.1	655.4	655.5	655.5
4°	651.2	650.5	650.5	651.1	652.6	653.0	653.3	653.8	654.2	654.4	654.4
4.5°	649.3	648.6	648.7	649.5	651.3	651.7	652.0	652.5	653.0	653.2	653.2
5°	647.4	646.6	646.7	647.7	649.6	650.1	650.4	651.0	651.6	651.9	651.8
5.5°	645.2	644.2	644.6	645.7	647.8	648.2	648.6	649.2	649.9	650.3	650.1
6°	642.8	641.9	642.3	643.5	645.9	646.3	646.7	647.4	648.2	648.5	648.2
6.5°	640.3	639.4	639.9	641.2	643.6	644.2	644.6	645.4	646.3	646.6	646.3
7°	637.5	636.7	637.3	638.5	641.2	641.9	642.4	643.2	644.0	644.4	644.1
7.5°	634.5	633.8	634.3	635.7	638.5	639.3	640.0	640.8	641.6	642.1	641.8
8°	631.4	630.8	631.3	632.7	635.7	636.6	637.5	638.3	639.1	639.4	639.1
8.5°	627.9	627.5	628.1	629.4	632.6	633.6	634.8	635.6	636.3	636.8	636.4
9°	624.2	623.9	624.6	626.0	629.3	630.7	632.0	632.7	633.4	633.7	633.4
9.5°	620.1	620.1	621.0	622.4	625.9	627.4	628.9	629.8	630.2	630.6	630.2
10°	616.1	616.1	617.0	618.5	622.2	624.0	625.7	626.6	626.9	627.1	626.8
10.5°	611.8	611.8	612.8	614.5	618.6	620.3	622.2	623.2	623.4	623.5	623.1
11°	606.9	607.1	608.4	610.1	614.5	616.6	618.6	619.6	619.8	619.7	619.2
11.5°	601.9	602.3	603.8	605.6	610.3	612.7	614.9	615.8	615.8	615.7	615.0
12°	596.6	597.2	598.9	600.9	606.1	608.6	610.9	612.0	612.0	611.6	610.8
12.5°	591.0	591.8	593.7	596.1	601.6	604.2	606.8	607.9	607.8	607.2	606.4
13°	585.3	586.2	588.5	591.1	596.9	599.7	602.6	603.7	603.4	602.6	601.4
13.5°	579.4	580.6	583.0	585.8	592.2	595.1	598.0	599.1	598.9	598.0	596.6
14°	573.4	574.8	577.6	580.6	587.0	590.4	593.3	594.6	594.2	593.0	591.3
14.5°	567.3	568.9	571.8	575.2	581.9	585.5	588.4	589.7	589.3	588.0	585.9
15°	561.1	562.9	566.0	569.6	576.6	580.4	583.5	584.8	584.4	582.8	580.5
15.5°	554.8	556.8	560.1	564.1	571.4	575.2	578.5	579.7	579.3	577.6	574.9
16°	548.5	550.7	554.4	558.4	565.9	570.1	573.4	574.6	574.1	572.2	569.3
16.5°	542.3	544.8	548.6	552.8	560.5	564.8	568.0	569.6	568.9	566.7	563.6
17°	536.2	538.7	542.6	547.1	555.0	559.4	562.8	564.2	563.5	561.1	557.9
17.5°	530.1	532.6	536.8	541.5	549.4	553.9	557.2	558.6	558.0	555.5	551.9
18°	524.0	526.7	531.0	535.8	543.9	548.5	551.8	553.4	552.4	549.9	546.2
18.5°	518.0	521.1	525.3	530.2	538.3	543.1	546.5	547.9	546.8	544.2	540.3
19°	512.5	515.7	520.1	524.8	532.8	537.7	541.1	542.4	541.3	538.6	534.5
19.5°	507.3	510.6	514.8	519.6	527.6	532.4	536.0	537.2	536.1	532.9	528.8
20°	502.1	505.5	509.7	514.5	522.3	527.2	531.1	532.1	530.6	527.6	523.3
20.5°	497.0	500.3	504.6	509.3	517.2	522.2	526.0	527.1	525.6	522.3	518.0
21°	491.8	495.2	499.3	504.1	512.1	517.2	520.8	522.1	520.5	517.2	512.8



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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°	473.5	476.7	480.7	487.0	496.6	501.6	504.9	506.4	505.2	501.8	496.9
23°	466.2	469.4	473.6	481.1	491.2	496.0	498.8	500.7	500.0	496.4	491.1
23.5°	458.2	461.7	466.3	474.3	485.6	490.0	492.2	494.3	494.4	490.9	484.9
24°	449.3	453.0	458.5	467.3	479.9	483.5	485.2	487.7	488.5	485.2	478.3
24.5°	439.9	443.6	450.2	459.8	473.6	477.0	478.1	480.7	482.5	479.0	471.2
25°	430.0	433.6	442.2	452.3	467.0	470.0	470.7	473.4	476.2	472.8	463.8
25.5°	419.6	423.4	433.7	444.0	460.0	462.5	462.7	465.8	469.4	466.1	456.2
26°	408.8	413.0	425.2	436.1	452.5	454.6	454.9	458.0	462.2	459.0	448.4
26.5°	397.8	402.6	416.0	427.7	444.2	446.5	447.3	450.1	454.4	451.4	440.1
27°	386.6	392.4	406.8	419.0	435.3	438.2	439.6	442.3	446.2	443.0	431.9
27.5°	376.0	382.3	397.1	410.1	425.5	429.7	431.9	434.3	437.7	434.3	423.7
28°	365.3	372.7	386.8	400.6	415.2	421.0	423.9	426.4	428.3	425.0	414.9
28.5°	354.9	363.4	376.4	390.6	404.0	411.9	415.9	418.2	418.8	415.5	406.0
29°	344.9	354.2	365.9	380.4	392.6	402.6	407.8	409.9	409.1	405.1	396.7
29.5°	335.0	344.9	355.1	369.6	380.8	392.9	398.9	401.0	398.5	394.5	386.9
30°	325.2	335.4	344.4	358.3	369.0	382.7	389.7	392.2	387.9	383.5	376.5
30.5°	315.5	325.6	334.1	346.4	357.7	372.1	380.0	382.6	376.5	371.9	366.1
31°	305.6	315.5	323.5	334.9	346.8	361.3	370.5	373.2	365.5	360.4	355.3
31.5°	295.7	305.1	313.4	322.7	336.3	350.4	360.6	363.0	354.5	348.8	344.5
32°	285.7	294.5	303.0	310.9	326.4	339.3	350.9	352.7	344.0	337.5	333.0
32.5°	275.7	283.4	292.7	299.3	316.3	328.3	341.1	342.0	333.3	326.6	322.1
33°	265.2	272.5	282.2	287.5	306.7	317.5	331.1	331.5	323.2	315.8	310.5
33.5°	254.6	261.6	271.6	275.9	296.5	306.8	320.7	320.9	312.8	305.2	298.7
34°	244.1	251.2	260.7	264.5	286.3	296.6	310.4	310.3	303.1	294.7	286.8
34.5°	233.9	240.3	249.8	253.5	275.8	286.6	299.7	299.2	292.9	284.4	275.5
35°	223.6	230.2	239.0	242.6	265.7	277.0	288.9	288.6	282.9	274.3	263.7
35.5°	213.9	220.5	227.9	232.0	254.4	267.0	277.6	277.9	272.7	264.1	252.7
36°	204.3	210.7	216.8	221.7	243.6	256.9	266.5	267.2	262.9	253.8	242.0
36.5°	194.9	201.1	205.9	211.5	233.0	247.0	255.1	256.4	252.4	243.3	231.6
37°	185.6	191.3	194.6	201.5	222.6	237.1	244.0	245.3	242.0	232.6	221.0
37.5°	176.4	181.8	183.7	191.7	212.2	226.8	232.8	234.9	231.5	222.0	211.2
38°	167.2	172.0	173.0	181.8	202.4	216.3	222.4	224.6	221.1	211.3	201.2
38.5°	158.0	162.3	162.9	172.2	192.6	205.8	211.6	214.5	211.1	200.9	191.3
39°	149.1	152.8	153.3	162.8	183.3	195.6	201.1	204.4	201.3	191.4	181.5
39.5°	139.8	142.9	143.8	154.1	173.5	185.4	190.7	194.4	191.5	181.1	171.9
40°	130.9	133.4	134.4	144.9	164.1	175.6	180.3	184.2	182.0	171.6	162.3
40.5°	122.0	124.1	125.8	136.3	154.9	165.9	170.0	174.3	172.4	162.5	152.8
41°	113.3	115.2	117.2	127.8	145.9	156.6	160.1	164.3	163.6	154.0	143.2
41.5°	104.8	106.5	108.9	119.5	136.6	147.2	150.5	154.2	154.4	144.9	134.2
42°	96.9	97.9	100.9	111.0	127.5	138.2	141.0	144.5	144.9	136.5	125.1
42.5°	89.0	89.9	93.3	103.3	118.9	129.3	131.7	135.2	135.8	128.0	116.5
43°	81.7	82.2	85.8	95.7	110.7	120.3	122.6	126.1	127.0	120.2	108.2
43.5°	74.3	74.7	78.8	88.1	102.7	111.2	114.1	117.2	118.1	111.6	100.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	54.6	54.1	59.3	67.2	81.2	86.3	90.4	92.9	93.5	89.4	78.8
45.5°	48.7	48.1	53.7	60.8	74.0	78.1	82.7	85.3	85.9	82.2	71.7
46°	43.2	42.6	48.3	54.8	66.9	69.9	75.0	77.6	78.2	74.9	65.2
46.5°	37.9	37.4	43.3	49.3	60.2	62.8	67.5	70.0	70.5	67.8	59.2
47°	34.1	33.7	38.4	44.0	53.8	56.1	60.6	62.9	63.4	61.2	53.4
47.5°	30.4	29.9	34.6	38.9	47.7	49.7	54.1	56.3	57.0	55.0	48.0
48°	26.7	26.1	30.8	34.1	41.9	43.9	48.2	49.9	50.7	49.2	43.0
48.5°	23.1	22.5	27.1	29.9	36.4	38.4	42.5	44.1	44.9	43.3	38.3
49°	19.4	18.7	23.3	26.3	31.3	33.5	37.1	38.5	39.3	38.0	33.8
49.5°	16.8	16.2	19.5	23.1	26.6	28.9	32.1	33.4	34.2	33.1	29.7
50°	14.4	13.9	16.5	19.8	22.6	24.7	27.4	28.8	29.4	28.5	25.9
50.5°	12.3	11.8	13.9	16.5	18.9	20.9	23.2	24.6	25.1	24.4	22.4
51°	10.3	9.9	11.4	13.3	15.6	17.5	19.3	20.7	21.1	20.5	19.2
51.5°	8.5	8.2	9.3	10.8	13.6	14.4	15.9	17.2	17.6	17.3	16.2
52°	6.9	6.6	7.4	8.6	11.5	12.3	13.6	14.1	14.4	14.3	13.6
52.5°	5.5	5.2	5.7	6.5	9.5	10.2	11.2	12.0	12.3	12.3	11.6
53°	4.2	4.0	4.3	4.9	7.5	8.1	9.0	9.9	10.2	10.1	9.7
53.5°	3.7	3.5	3.8	3.6	5.4	5.9	6.6	7.9	8.1	8.1	7.8
54°	3.2	2.9	3.2	3.0	3.4	3.9	4.4	5.7	5.9	6.0	5.7
54.5°	2.7	2.2	2.7	2.6	2.5	2.8	3.1	3.7	3.9	3.9	3.9
55°	2.0	1.7	2.0	2.0	2.0	2.1	2.3	2.7	2.8	2.9	2.9
55.5°	1.5	1.5	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.1
56°	1.4	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.8	1.8
56.5°	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.5	1.6	1.6	1.6
57°	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.4	1.4
57.5°	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.3
58°	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1
58.5°	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.0
59°	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9
59.5°	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8
60°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
60.5°	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
61°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
61.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
62°	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
62.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
63°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
63.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
64°	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
64.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
65°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
65.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
66°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4



TEST NUMBER: P775681

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

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	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
68°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
68.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
69°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
69.5°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
70°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
70.5°	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3
71°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
71.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
72°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
72.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
73°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
73.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
74°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
74.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
75°	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
75.5°	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2
76°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
77°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
77.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
78°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
79.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
81°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
81.5°	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
82°	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1
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: P775681
CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

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: P775681

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	658.5	658.5	658.5	658.5	658.5	658.5
0.5°	658.3	658.5	658.6	658.7	658.7	658.3
1°	658.3	658.4	658.4	658.5	658.4	657.9
1.5°	658.1	658.1	658.1	658.1	657.9	657.3
2°	657.7	657.6	657.6	657.5	657.1	656.5
2.5°	657.1	656.9	656.8	656.7	656.2	655.5
3°	656.4	656.0	655.9	655.7	655.2	654.2
3.5°	655.4	654.9	654.7	654.4	653.7	652.8
4°	654.1	653.5	653.4	653.0	652.2	651.2
4.5°	652.8	652.0	651.8	651.4	650.6	649.3
5°	651.4	650.4	649.9	649.4	648.6	647.4
5.5°	649.6	648.4	647.9	647.4	646.3	645.2
6°	647.7	646.3	645.8	645.0	644.0	642.8
6.5°	645.7	644.0	643.4	642.6	641.5	640.3
7°	643.4	641.6	640.8	639.8	638.5	637.5
7.5°	641.0	638.9	637.9	636.8	635.5	634.5
8°	638.4	636.1	634.8	633.5	632.4	631.4
8.5°	635.6	633.0	631.6	630.0	628.8	627.9
9°	632.5	629.7	628.0	626.3	625.0	624.2
9.5°	629.2	626.2	624.2	622.2	620.7	620.1
10°	625.8	622.4	620.1	618.0	616.7	616.1
10.5°	622.0	618.4	615.7	613.4	612.2	611.8
11°	618.1	614.1	611.2	608.6	607.3	606.9
11.5°	613.9	609.4	606.3	603.5	602.1	601.9
12°	609.3	604.6	601.0	598.1	596.7	596.6
12.5°	604.6	599.3	595.5	592.5	591.0	591.0
13°	599.7	593.8	589.9	586.8	585.2	585.3
13.5°	594.4	588.2	584.0	580.6	579.4	579.4
14°	588.9	582.4	578.0	574.5	573.0	573.4
14.5°	583.3	576.2	571.7	568.4	566.7	567.3
15°	577.6	570.1	565.4	562.0	560.5	561.1
15.5°	571.6	564.0	559.1	555.7	554.2	554.8
16°	565.7	557.7	552.8	549.1	547.9	548.5
16.5°	559.7	551.5	546.4	542.7	541.5	542.3
17°	553.6	545.3	539.9	536.3	535.1	536.2
17.5°	547.4	539.0	533.6	530.1	528.9	530.1
18°	541.4	532.6	527.3	523.7	522.7	524.0
18.5°	535.4	526.6	521.0	517.4	516.6	518.0
19°	529.4	520.5	515.0	511.5	510.9	512.5
19.5°	523.7	514.9	509.6	506.1	505.4	507.3
20°	518.1	509.5	504.0	500.8	500.1	502.1
20.5°	512.8	504.3	498.7	495.5	495.0	497.0
21°	507.5	499.1	493.3	490.1	489.9	491.8



TEST NUMBER: P775681

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	491.5	482.8	476.4	472.3	471.3	473.5
23°	485.2	476.4	469.4	464.6	463.6	466.2
23.5°	478.6	469.3	462.0	456.4	455.8	458.2
24°	471.5	461.4	453.4	447.3	446.9	449.3
24.5°	463.9	452.7	444.9	437.9	437.5	439.9
25°	455.9	443.3	435.5	428.0	427.8	430.0
25.5°	447.6	433.2	425.8	418.3	418.0	419.6
26°	438.8	422.6	415.4	408.8	407.6	408.8
26.5°	429.7	411.5	405.0	399.2	397.5	397.8
27°	420.4	400.7	393.9	389.8	387.2	386.6
27.5°	410.6	390.1	382.1	379.8	376.6	376.0
28°	400.6	380.2	370.8	369.8	366.2	365.3
28.5°	390.6	370.5	359.8	359.4	355.8	354.9
29°	380.3	361.1	349.2	348.6	345.0	344.9
29.5°	370.0	352.0	338.9	337.3	334.3	335.0
30°	360.0	342.6	328.7	326.1	323.2	325.2
30.5°	349.8	332.9	318.7	314.5	312.0	315.5
31°	339.9	323.0	308.8	302.7	301.0	305.6
31.5°	330.3	312.5	298.9	291.6	289.8	295.7
32°	320.5	301.8	288.8	280.5	279.1	285.7
32.5°	310.8	291.0	278.9	269.5	268.9	275.7
33°	301.1	279.9	268.7	259.0	258.8	265.2
33.5°	291.4	268.9	258.4	248.3	248.8	254.6
34°	281.1	258.3	248.1	237.9	238.8	244.1
34.5°	270.7	248.2	237.5	227.5	228.7	233.9
35°	259.7	238.2	227.2	217.1	218.6	223.6
35.5°	249.2	228.8	217.3	206.7	208.5	213.9
36°	237.6	219.7	207.4	196.9	198.3	204.3
36.5°	226.7	210.3	198.1	187.6	188.0	194.9
37°	215.4	201.1	188.6	178.3	178.1	185.6
37.5°	204.8	191.8	179.3	169.2	168.5	176.4
38°	194.1	182.1	170.1	160.2	159.2	167.2
38.5°	184.1	172.4	161.0	151.4	150.3	158.0
39°	173.9	162.9	152.3	143.0	141.9	149.1
39.5°	164.0	153.3	143.2	134.5	133.6	139.8
40°	154.1	143.9	134.6	126.5	125.6	130.9
40.5°	144.8	134.7	126.1	118.4	117.6	122.0
41°	135.3	126.0	117.7	110.9	110.2	113.3
41.5°	126.2	117.3	109.7	103.6	102.6	104.8
42°	117.3	109.1	101.8	96.9	95.5	96.9
42.5°	108.6	101.0	94.2	90.0	88.5	89.0
43°	100.3	93.1	87.0	83.7	82.0	81.7
43.5°	92.8	84.9	80.1	77.4	75.4	74.3



TEST NUMBER: P775681

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	70.7	62.4	61.1	60.1	58.1	54.6
45.5°	64.1	55.5	55.2	54.8	52.8	48.7
46°	58.0	49.2	49.8	49.9	48.0	43.2
46.5°	52.2	43.3	44.6	45.2	43.2	37.9
47°	46.8	38.1	39.6	40.6	38.7	34.1
47.5°	41.8	34.3	35.0	36.4	35.0	30.4
48°	37.0	30.5	31.4	33.0	31.4	26.7
48.5°	32.7	26.9	27.8	29.5	27.8	23.1
49°	28.7	23.2	24.2	26.0	24.1	19.4
49.5°	25.0	19.5	20.6	22.6	20.4	16.8
50°	21.6	16.9	17.7	19.1	17.6	14.4
50.5°	18.7	14.7	15.1	16.2	14.7	12.3
51°	15.9	12.6	12.9	13.7	12.4	10.3
51.5°	13.6	10.7	10.7	11.3	10.2	8.5
52°	11.7	9.0	8.8	9.2	8.2	6.9
52.5°	10.0	7.4	7.1	7.2	6.4	5.5
53°	8.2	5.9	5.6	5.5	4.9	4.2
53.5°	6.4	4.6	4.3	4.1	3.6	3.7
54°	4.6	3.5	3.7	3.5	3.1	3.2
54.5°	3.5	3.0	3.2	2.9	2.6	2.7
55°	2.7	2.6	2.7	2.2	2.0	2.0
55.5°	2.0	2.0	2.0	1.6	1.6	1.5
56°	1.8	1.6	1.5	1.5	1.4	1.4
56.5°	1.5	1.4	1.3	1.3	1.3	1.2
57°	1.4	1.2	1.2	1.2	1.1	1.1
57.5°	1.2	1.1	1.1	1.1	1.0	1.0
58°	1.1	1.0	1.0	1.0	0.9	0.9
58.5°	1.0	0.9	0.9	0.9	0.9	0.8
59°	0.9	0.8	0.8	0.8	0.8	0.8
59.5°	0.8	0.8	0.8	0.8	0.7	0.7
60°	0.8	0.7	0.7	0.7	0.7	0.7
60.5°	0.7	0.7	0.7	0.7	0.7	0.6
61°	0.7	0.6	0.6	0.6	0.6	0.6
61.5°	0.6	0.6	0.6	0.6	0.6	0.6
62°	0.6	0.6	0.6	0.6	0.5	0.5
62.5°	0.6	0.5	0.5	0.5	0.5	0.5
63°	0.5	0.5	0.5	0.5	0.5	0.5
63.5°	0.5	0.5	0.5	0.5	0.5	0.5
64°	0.5	0.5	0.5	0.5	0.4	0.4
64.5°	0.5	0.4	0.4	0.4	0.4	0.4
65°	0.4	0.4	0.4	0.4	0.4	0.4
65.5°	0.4	0.4	0.4	0.4	0.4	0.4
66°	0.4	0.4	0.4	0.4	0.4	0.3



TEST NUMBER: P775681

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.3	0.3	0.3	0.3	0.3	0.3
68°	0.3	0.3	0.3	0.3	0.3	0.3
68.5°	0.3	0.3	0.3	0.3	0.3	0.3
69°	0.3	0.3	0.3	0.3	0.3	0.3
69.5°	0.3	0.3	0.3	0.3	0.3	0.2
70°	0.3	0.3	0.3	0.3	0.2	0.2
70.5°	0.3	0.3	0.3	0.2	0.2	0.2
71°	0.3	0.2	0.2	0.2	0.2	0.2
71.5°	0.2	0.2	0.2	0.2	0.2	0.2
72°	0.2	0.2	0.2	0.2	0.2	0.2
72.5°	0.2	0.2	0.2	0.2	0.2	0.2
73°	0.2	0.2	0.2	0.2	0.2	0.2
73.5°	0.2	0.2	0.2	0.2	0.2	0.2
74°	0.2	0.2	0.2	0.2	0.2	0.1
74.5°	0.2	0.2	0.2	0.2	0.1	0.1
75°	0.2	0.2	0.2	0.2	0.1	0.1
75.5°	0.2	0.2	0.2	0.1	0.1	0.1
76°	0.2	0.1	0.1	0.1	0.1	0.1
76.5°	0.1	0.1	0.1	0.1	0.1	0.1
77°	0.1	0.1	0.1	0.1	0.1	0.1
77.5°	0.1	0.1	0.1	0.1	0.1	0.1
78°	0.1	0.1	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.1	0.1	0.1	0.1
79.5°	0.1	0.1	0.1	0.1	0.1	0.1
80°	0.1	0.1	0.1	0.1	0.1	0.0
80.5°	0.1	0.1	0.1	0.1	0.0	0.0
81°	0.1	0.1	0.1	0.1	0.0	0.0
81.5°	0.1	0.1	0.1	0.1	0.0	0.0
82°	0.1	0.1	0.1	0.0	0.0	0.0
82.5°	0.1	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: P775681

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMB-1000lm-3000K

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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Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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

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21.5°	486.4	489.7	493.5	498.7	507.0	512.3	516.1	517.1	515.4	511.9	507.6
22°	480.3	483.4	487.3	493.2	501.9	507.0	510.7	512.0	510.4	506.8	502.5



44°	67.6	67.5	71.9	80.7	95.6	102.5	105.7	108.5	109.4	103.9	93.1
44.5°	60.6	60.6	65.4	73.9	88.4	94.3	98.0	100.6	101.2	96.7	86.0



66.5°	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	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°	502.3	493.9	488.3	485.1	484.2	486.4
22°	497.2	488.5	482.5	479.0	478.1	480.3



44°	85.5	77.2	73.5	71.4	69.3	67.6
44.5°	78.0	69.6	67.2	65.5	63.6	60.6

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