

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: P775656

Luminaire Tested: HCDJBS510CSD-HCD42TRMB-1000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775656
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B051)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD42TRMB-1000lm-3000K
Description: 4 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 481.3 lumens
Efficiency: N/A
Efficacy: 48.1 lumens/watt
Spacing Criteria (0/90/45): 0.95 / 0.94 / 0.88
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

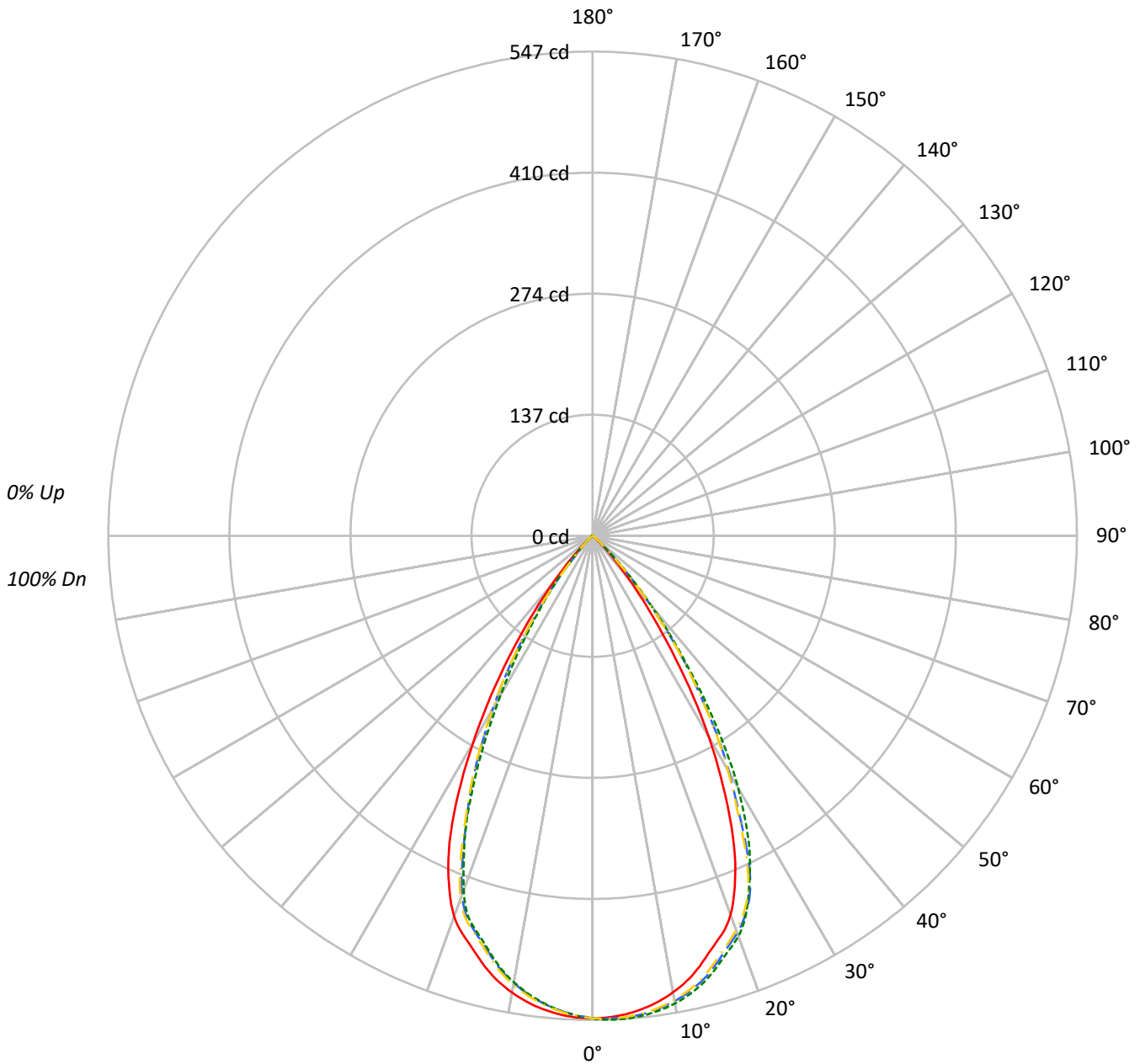
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P775656

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-3000K

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	114	111	109	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94			
2	108	103	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88			
3	103	97	92	88	101	95	91	87	93	89	86	90	87	85	88	85	83	82			
4	98	91	85	81	96	89	84	81	87	83	80	85	82	79	83	80	78	76			
5	93	85	79	75	91	84	79	75	82	78	74	81	77	73	79	76	73	71			
6	89	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67			
7	84	75	69	65	83	74	69	65	73	68	65	72	68	64	71	67	64	63			
8	80	71	65	61	79	70	65	61	69	64	61	68	64	60	67	63	60	59			
9	76	67	61	57	75	67	61	57	66	61	57	65	60	57	64	60	57	55			
10	73	63	58	54	72	63	58	54	62	57	54	61	57	54	61	56	53	52			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	68588	68588	68588	68588
5°	68193	68989	68218	67511
10°	66924	68547	66963	65455
15°	64285	66956	64467	61940
20°	61017	64486	61245	56999
25°	52072	58363	53100	45171
30°	38175	47723	39222	30212
35°	22554	31910	24151	17207
40°	10350	17020	11533	7820
45°	3186	5784	3649	2278
50°	1018	1155	1038	881
55°	636	724	636	527
60°	378	428	403	352
65°	268	268	268	238
70°	184	184	184	147
75°	97	146	97	97
80°	72	72	72	72
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6033 cd/sqm



TEST NUMBER: P775656

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.0	10.6
10°-20°	138.8	28.8
20°-30°	168.4	35.0
30°-40°	99.2	20.6
40°-50°	20.0	4.1
50°-60°	2.7	0.6
60°-70°	0.9	0.2
70°-80°	0.3	0.1
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°	358.2	74.4
0°-40°	457.4	95.0
0°-60°	480.1	99.8
0°-90°	481.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	481.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	545	545	545	545	545	
5°	540	546	540	534	540	51
15°	493	514	495	475	493	139
25°	375	420	382	325	375	168
35°	147	208	157	112	147	93
45°	18	32	20	13	18	18
55°	3	3	3	2	3	3
65°	1	1	1	1	1	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°	545.0	545.0	545.0	545.0	545.0	545.0	545.0	545.0	545.0	545.0	545.0
0.5°	545.1	545.4	545.1	544.9	546.0	545.6	545.3	545.2	545.1	545.0	544.2
1°	544.9	545.4	545.4	545.3	546.4	546.0	545.6	545.3	545.0	544.6	543.5
1.5°	544.7	545.4	545.7	545.7	546.8	546.3	545.7	545.2	544.7	544.1	542.8
2°	544.3	545.2	545.8	545.9	547.0	546.5	545.8	545.1	544.4	543.6	541.9
2.5°	543.8	545.0	545.8	546.0	547.2	546.6	545.7	544.9	543.9	542.9	540.8
3°	543.2	544.6	545.7	546.1	547.2	546.6	545.6	544.5	543.4	542.1	539.8
3.5°	542.6	544.2	545.6	546.0	547.1	546.4	545.3	544.1	542.7	541.1	538.7
4°	541.8	543.6	545.3	545.8	546.9	546.2	545.0	543.5	541.9	540.1	537.4
4.5°	540.8	543.0	545.0	545.6	546.5	545.9	544.5	542.9	541.0	539.1	535.9
5°	539.8	542.2	544.5	545.2	546.1	545.4	544.0	542.2	540.0	537.9	534.4
5.5°	538.7	541.3	543.9	544.8	545.6	544.9	543.3	541.3	538.9	536.6	532.9
6°	537.5	540.3	543.2	544.2	545.0	544.2	542.5	540.3	537.7	535.1	531.2
6.5°	536.1	539.3	542.4	543.5	544.4	543.5	541.6	539.2	536.4	533.5	529.3
7°	534.8	538.1	541.4	542.7	543.5	542.6	540.6	538.0	535.0	531.9	527.3
7.5°	533.2	536.8	540.4	541.9	542.6	541.6	539.6	536.8	533.5	530.0	525.2
8°	531.6	535.3	539.4	540.8	541.6	540.5	538.3	535.3	531.8	528.2	523.1
8.5°	529.7	533.8	538.1	539.7	540.4	539.3	537.0	533.8	530.0	526.3	520.8
9°	527.9	532.2	536.8	538.5	539.2	538.1	535.5	532.2	528.2	524.1	518.4
9.5°	525.9	530.3	535.3	537.2	537.9	536.7	534.0	530.4	526.2	522.0	515.8
10°	523.7	528.5	533.8	535.7	536.4	535.2	532.4	528.6	524.0	519.5	513.1
10.5°	521.4	526.5	532.2	534.2	534.8	533.5	530.6	526.6	521.8	517.1	510.4
11°	519.1	524.4	530.3	532.5	533.1	531.8	528.7	524.4	519.5	514.4	507.4
11.5°	516.6	522.2	528.4	530.7	531.3	529.8	526.7	522.2	517.0	511.7	504.1
12°	513.8	519.7	526.4	528.9	529.3	527.9	524.5	519.8	514.3	508.7	500.8
12.5°	510.9	517.1	524.2	526.8	527.3	525.6	522.2	517.3	511.5	505.6	497.2
13°	507.7	514.4	521.8	524.6	524.9	523.4	519.7	514.6	508.5	502.3	493.4
13.5°	504.3	511.4	519.4	522.3	522.5	520.9	517.1	511.7	505.3	498.8	489.6
14°	500.9	508.3	516.8	519.7	519.9	518.2	514.2	508.6	501.9	495.1	485.4
14.5°	497.2	505.0	513.9	517.0	517.0	515.1	511.3	505.4	498.4	491.2	481.4
15°	493.4	501.4	510.9	514.0	513.9	512.2	508.0	502.0	494.8	487.3	477.4
15.5°	489.7	497.7	507.6	510.9	510.9	508.9	504.6	498.4	491.0	483.4	473.9
16°	486.1	494.1	504.1	507.6	507.5	505.6	501.2	494.8	487.2	479.7	470.4
16.5°	482.8	490.6	500.6	504.1	503.9	502.1	497.6	491.2	483.7	476.2	466.9
17°	479.5	487.3	497.0	500.8	500.6	498.6	494.0	487.7	480.4	472.9	463.5
17.5°	476.3	484.1	493.6	497.3	497.3	495.4	490.7	484.5	477.1	469.6	460.0
18°	473.0	480.9	490.3	494.1	494.3	492.2	487.6	481.2	473.8	466.1	455.9
18.5°	469.6	477.5	487.1	491.1	491.2	489.1	484.3	477.7	470.3	462.4	451.2
19°	465.5	474.3	483.8	487.9	488.1	486.0	481.0	474.6	466.5	458.2	445.5
19.5°	460.8	470.6	480.7	484.7	485.1	482.8	477.7	470.9	462.2	453.1	439.0
20°	455.6	466.4	477.3	481.6	481.5	479.4	474.3	467.0	457.3	447.2	431.3
20.5°	449.6	461.7	473.9	478.0	477.4	475.5	470.5	462.7	451.7	440.8	422.8
21°	443.1	456.7	470.0	474.1	472.7	471.0	466.4	458.0	445.8	433.6	412.9



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CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	420.5	437.9	456.3	459.2	455.7	455.0	451.8	440.7	424.5	407.6	381.0
23°	412.4	430.4	450.7	453.3	449.0	448.5	446.1	433.9	417.1	397.8	370.5
23.5°	404.0	422.6	444.5	446.6	441.7	441.4	439.4	426.2	409.0	387.6	360.1
24°	394.7	414.2	437.6	439.3	434.6	434.3	432.1	418.2	400.7	377.3	350.3
24.5°	385.1	405.3	429.7	431.8	427.6	426.5	423.6	409.8	391.8	367.0	340.4
25°	375.0	396.2	420.4	423.6	420.3	418.7	414.6	400.9	382.4	357.2	330.5
25.5°	364.3	386.4	410.5	415.6	413.1	411.0	404.3	391.3	372.2	347.5	320.5
26°	353.4	375.8	399.2	407.1	405.4	403.0	393.1	381.1	361.7	338.1	310.3
26.5°	342.0	364.4	387.2	398.3	397.3	394.1	381.2	370.3	350.7	328.3	299.8
27°	330.7	352.5	374.7	388.8	388.6	385.0	369.7	358.9	339.8	318.4	289.0
27.5°	319.5	340.1	362.3	379.2	378.9	375.3	357.9	346.9	328.3	308.4	277.7
28°	308.4	327.4	350.3	368.5	369.1	365.3	346.7	334.2	316.7	298.1	266.6
28.5°	297.2	314.7	339.1	357.6	358.8	354.3	335.7	322.0	305.5	287.5	255.7
29°	285.7	302.3	328.4	346.0	348.9	343.0	325.8	309.9	293.5	276.4	245.3
29.5°	274.2	289.6	318.3	334.2	338.7	331.2	315.5	298.2	281.6	264.6	235.0
30°	262.7	277.9	308.1	322.1	328.4	319.6	305.4	286.9	269.9	253.0	224.8
30.5°	251.2	265.8	297.9	310.5	317.4	307.9	295.2	275.5	258.4	241.3	214.9
31°	239.2	254.2	287.0	299.1	306.3	296.7	284.7	264.3	246.6	229.9	204.9
31.5°	227.3	242.3	275.9	287.8	294.1	285.5	273.4	253.0	235.0	218.6	194.9
32°	215.4	230.9	264.3	276.9	281.9	274.5	262.0	241.7	223.5	207.8	184.8
32.5°	203.5	219.8	252.4	266.4	269.3	263.3	250.5	230.2	212.4	197.2	174.1
33°	191.6	208.8	240.4	255.6	256.8	252.5	239.0	218.4	200.8	186.8	163.6
33.5°	179.7	197.8	228.8	244.7	244.5	241.2	227.5	207.1	189.6	176.3	153.3
34°	168.2	187.4	217.8	233.6	232.1	230.2	216.7	196.1	178.6	165.6	143.3
34.5°	157.2	176.9	207.3	222.5	219.9	218.7	206.6	185.4	167.9	154.9	133.3
35°	146.8	166.6	196.7	210.9	207.7	207.5	196.1	175.1	157.2	144.2	123.9
35.5°	136.8	156.8	186.7	199.5	195.8	196.6	186.2	165.2	147.0	133.8	114.7
36°	127.1	147.6	176.7	188.2	184.3	185.5	175.9	155.8	137.1	123.5	105.8
36.5°	117.6	138.4	166.7	177.5	172.9	174.4	165.5	146.5	127.6	113.7	97.1
37°	108.7	129.2	156.4	166.9	162.0	163.5	154.9	137.4	118.0	104.2	88.3
37.5°	100.2	120.3	146.3	156.7	151.6	152.8	144.4	128.4	109.3	95.9	79.5
38°	92.0	111.3	136.0	146.6	141.5	142.4	134.1	119.6	100.8	87.8	70.9
38.5°	84.0	102.6	126.1	136.3	131.7	132.0	124.1	110.8	93.2	79.5	62.8
39°	76.7	94.0	116.8	126.6	122.1	122.1	114.3	102.2	85.5	71.4	55.4
39.5°	69.6	85.7	107.9	116.9	112.8	112.3	105.2	94.0	77.9	64.6	48.5
40°	63.0	77.9	99.6	107.4	103.6	103.1	97.2	85.9	70.2	57.7	42.5
40.5°	56.8	70.3	91.3	98.0	95.3	94.3	89.1	77.9	63.4	51.4	37.2
41°	50.9	63.2	83.6	88.7	87.1	85.6	81.0	69.8	57.2	45.5	32.6
41.5°	45.6	56.7	76.0	80.0	78.8	77.0	73.0	62.7	51.2	40.0	28.6
42°	40.6	50.6	68.4	71.8	70.5	68.2	64.9	56.1	45.7	35.0	25.4
42.5°	36.0	44.9	61.1	64.1	63.5	60.7	57.6	49.6	40.6	30.7	22.5
43°	32.3	39.5	53.7	56.9	56.5	53.5	50.5	43.7	35.9	26.8	19.8
43.5°	28.7	35.0	46.9	50.2	50.2	47.0	43.8	38.4	31.5	23.4	17.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	17.9	23.0	30.5	33.9	32.5	30.6	27.6	24.7	20.5	15.5	11.6
45.5°	15.4	19.2	26.3	29.8	27.5	26.2	23.3	21.1	17.5	13.4	10.4
46°	13.0	16.2	22.2	25.6	23.2	22.2	19.8	17.7	14.8	11.4	9.3
46.5°	10.9	13.6	18.0	21.4	19.4	18.8	16.6	15.0	12.4	10.3	8.1
47°	9.2	11.2	15.2	17.3	16.0	15.6	13.9	12.4	11.1	9.1	6.9
47.5°	7.6	9.3	12.5	14.4	13.2	12.9	12.5	11.1	9.8	8.0	5.7
48°	6.6	7.6	10.4	11.8	11.7	11.5	11.2	9.8	8.5	6.8	5.3
48.5°	6.0	6.6	8.6	9.6	10.2	10.2	9.9	8.6	7.1	5.7	5.1
49°	5.7	6.0	7.2	7.9	8.8	8.8	8.6	7.2	5.8	5.4	4.9
49.5°	5.4	5.7	6.4	6.7	7.3	7.3	7.1	6.0	5.5	5.1	4.7
50°	5.2	5.4	5.9	6.1	5.9	6.0	5.8	5.6	5.3	4.9	4.4
50.5°	4.9	5.2	5.6	5.7	5.6	5.7	5.6	5.4	5.0	4.7	4.2
51°	4.7	4.9	5.4	5.5	5.4	5.4	5.3	5.1	4.8	4.4	3.9
51.5°	4.4	4.7	5.1	5.2	5.1	5.1	5.0	4.8	4.5	4.2	3.7
52°	4.2	4.4	4.9	5.0	4.9	4.9	4.8	4.5	4.2	3.9	3.5
52.5°	3.9	4.1	4.6	4.7	4.6	4.6	4.5	4.3	4.0	3.7	3.3
53°	3.7	3.9	4.3	4.4	4.3	4.3	4.2	4.0	3.7	3.5	3.1
53.5°	3.5	3.6	4.0	4.1	4.0	4.0	3.9	3.8	3.5	3.3	2.9
54°	3.3	3.4	3.8	3.9	3.8	3.8	3.7	3.5	3.3	3.1	2.8
54.5°	3.1	3.2	3.6	3.7	3.5	3.5	3.5	3.3	3.1	2.9	2.5
55°	2.9	3.1	3.3	3.4	3.3	3.3	3.3	3.1	2.9	2.8	2.4
55.5°	2.7	2.9	3.1	3.2	3.1	3.1	3.1	2.9	2.8	2.5	2.2
56°	2.5	2.7	2.9	3.0	2.9	2.9	2.9	2.8	2.5	2.4	2.1
56.5°	2.3	2.4	2.8	2.8	2.8	2.8	2.7	2.5	2.4	2.2	2.0
57°	2.2	2.3	2.5	2.7	2.5	2.5	2.5	2.4	2.2	2.1	1.9
57.5°	2.0	2.1	2.3	2.4	2.3	2.3	2.3	2.2	2.1	2.0	1.8
58°	1.9	2.0	2.2	2.3	2.2	2.2	2.2	2.1	2.0	1.9	1.7
58.5°	1.8	1.9	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.8	1.6
59°	1.7	1.8	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.7	1.5
59.5°	1.6	1.7	1.8	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.4
60°	1.5	1.6	1.7	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.3
60.5°	1.4	1.5	1.6	1.7	1.6	1.6	1.6	1.5	1.5	1.4	1.3
61°	1.4	1.4	1.5	1.6	1.5	1.5	1.5	1.5	1.4	1.3	1.2
61.5°	1.3	1.3	1.4	1.5	1.4	1.4	1.4	1.4	1.3	1.2	1.1
62°	1.2	1.2	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.2	1.1
62.5°	1.1	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1	1.0
63°	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
63.5°	1.0	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.0	1.0	0.9
64°	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.9
64.5°	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
65°	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8
65.5°	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7
66°	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7



TEST NUMBER: P775656

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
68°	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5
68.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5
69°	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5
69.5°	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
70.5°	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
71°	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
72°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
72.5°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
73°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74.5°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
75°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
75.5°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
76°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
76.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
77°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
77.5°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
78°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
78.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.1	0.2	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°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
81°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
81.5°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
82°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
82.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
83°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	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: P775656

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-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: P775656

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	545.0	545.0	545.0	545.0	545.0	545.0
0.5°	543.7	544.8	544.5	544.5	544.7	545.1
1°	542.9	544.1	543.9	543.9	544.4	544.9
1.5°	542.1	543.3	543.1	543.3	543.9	544.7
2°	541.0	542.3	542.2	542.5	543.3	544.3
2.5°	539.9	541.2	541.1	541.6	542.6	543.8
3°	538.8	540.1	540.0	540.6	541.8	543.2
3.5°	537.5	538.8	538.8	539.5	540.9	542.6
4°	536.0	537.5	537.5	538.3	539.8	541.8
4.5°	534.6	535.9	536.0	537.0	538.7	540.8
5°	532.9	534.4	534.5	535.6	537.5	539.8
5.5°	531.3	532.7	532.8	534.1	536.2	538.7
6°	529.3	530.8	531.1	532.5	534.7	537.5
6.5°	527.5	528.9	529.2	530.6	533.2	536.1
7°	525.3	526.9	527.2	528.9	531.6	534.8
7.5°	523.1	524.7	525.1	526.9	529.7	533.2
8°	520.9	522.4	522.9	524.7	527.9	531.6
8.5°	518.4	520.0	520.5	522.5	525.9	529.7
9°	515.9	517.5	518.1	520.2	523.7	527.9
9.5°	513.3	514.9	515.6	517.7	521.5	525.9
10°	510.5	512.2	512.8	515.2	519.1	523.7
10.5°	507.6	509.2	509.9	512.5	516.6	521.4
11°	504.3	506.2	507.0	509.5	513.8	519.1
11.5°	501.1	502.8	503.6	506.4	511.0	516.6
12°	497.6	499.4	500.2	503.1	507.9	513.8
12.5°	493.8	495.7	496.4	499.3	504.5	510.9
13°	490.0	491.7	492.4	495.7	501.2	507.7
13.5°	485.9	487.7	488.5	491.8	497.4	504.3
14°	481.6	483.5	484.4	487.7	493.6	500.9
14.5°	477.5	479.4	480.2	483.7	489.7	497.2
15°	473.8	475.4	476.2	479.6	485.8	493.4
15.5°	470.2	471.7	472.6	475.9	481.9	489.7
16°	466.6	468.2	469.2	472.4	478.4	486.1
16.5°	463.1	464.8	465.6	469.1	475.2	482.8
17°	459.6	461.3	462.1	465.7	471.9	479.5
17.5°	455.8	457.6	458.6	462.3	468.6	476.3
18°	450.9	453.5	454.5	458.7	465.2	473.0
18.5°	445.4	447.9	449.2	454.4	461.3	469.6
19°	439.1	441.6	443.5	449.2	456.7	465.5
19.5°	431.9	434.2	436.5	443.2	451.4	460.8
20°	423.7	425.6	428.8	435.9	445.3	455.6
20.5°	414.8	416.6	420.1	428.0	438.2	449.6
21°	405.4	407.1	410.9	418.9	430.2	443.1



TEST NUMBER: P775656

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	373.6	378.8	380.1	387.3	401.8	420.5
23°	362.5	369.5	369.5	376.2	391.1	412.4
23.5°	351.3	359.3	358.7	365.2	380.9	404.0
24°	340.6	348.6	347.3	354.3	370.7	394.7
24.5°	329.5	337.2	336.0	344.1	360.9	385.1
25°	318.7	325.3	324.9	333.5	351.4	375.0
25.5°	308.2	313.7	313.7	323.3	341.9	364.3
26°	297.8	301.6	302.2	313.0	332.3	353.4
26.5°	287.0	289.9	290.9	302.9	322.4	342.0
27°	276.3	277.7	279.8	292.1	312.0	330.7
27.5°	265.4	265.8	268.8	281.2	301.2	319.5
28°	254.8	254.1	257.7	269.9	289.5	308.4
28.5°	244.0	242.1	247.2	258.5	277.9	297.2
29°	233.2	230.1	236.2	247.3	265.6	285.7
29.5°	222.3	218.9	225.5	236.7	254.3	274.2
30°	211.6	207.9	214.5	225.9	242.4	262.7
30.5°	200.7	197.0	203.6	215.4	231.4	251.2
31°	190.1	186.6	192.1	205.0	220.4	239.2
31.5°	179.4	176.8	181.1	195.2	209.7	227.3
32°	169.1	167.0	170.6	185.3	199.1	215.4
32.5°	158.8	157.5	160.5	175.5	189.0	203.5
33°	149.2	147.9	150.8	165.2	178.5	191.6
33.5°	139.5	138.2	141.5	155.1	167.8	179.7
34°	130.2	129.2	132.3	145.1	156.9	168.2
34.5°	121.3	120.4	123.6	135.0	146.4	157.2
35°	112.6	112.0	114.8	125.3	135.7	146.8
35.5°	104.0	104.1	106.7	115.9	125.3	136.8
36°	96.5	96.9	98.6	106.8	115.3	127.1
36.5°	89.2	89.6	90.7	98.1	105.8	117.6
37°	81.8	82.9	83.3	89.5	96.9	108.7
37.5°	74.4	76.3	76.3	81.2	88.3	100.2
38°	67.0	69.7	69.7	73.0	80.1	92.0
38.5°	61.0	63.7	63.4	65.2	72.3	84.0
39°	55.0	58.0	57.6	58.0	64.9	76.7
39.5°	49.3	52.6	52.1	51.2	58.0	69.6
40°	43.9	47.6	46.9	44.8	51.2	63.0
40.5°	39.3	42.7	41.9	39.3	45.2	56.8
41°	34.6	38.3	37.2	34.8	39.6	50.9
41.5°	30.5	34.7	33.6	31.3	34.7	45.6
42°	26.7	31.1	30.1	27.8	31.2	40.6
42.5°	23.4	27.5	26.6	24.5	27.7	36.0
43°	20.5	24.0	23.0	21.0	24.3	32.3
43.5°	17.8	20.4	19.5	18.6	20.8	28.7



TEST NUMBER: P775656

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	11.8	12.8	12.4	12.4	13.9	17.9
45.5°	10.4	10.8	10.5	10.8	12.1	15.4
46°	8.9	9.0	9.0	9.3	10.4	13.0
46.5°	7.4	7.4	7.5	8.0	8.9	10.9
47°	6.0	6.4	6.4	6.8	7.5	9.2
47.5°	5.5	5.8	5.8	6.1	6.6	7.6
48°	5.2	5.4	5.5	5.7	6.0	6.6
48.5°	5.0	5.2	5.2	5.4	5.6	6.0
49°	4.8	5.0	5.0	5.2	5.4	5.7
49.5°	4.5	4.7	4.8	4.9	5.2	5.4
50°	4.3	4.5	4.5	4.7	4.9	5.2
50.5°	4.0	4.2	4.3	4.4	4.7	4.9
51°	3.8	4.0	4.0	4.2	4.4	4.7
51.5°	3.6	3.8	3.8	3.9	4.2	4.4
52°	3.4	3.5	3.6	3.7	3.9	4.2
52.5°	3.2	3.3	3.4	3.5	3.7	3.9
53°	3.0	3.1	3.2	3.3	3.5	3.7
53.5°	2.9	3.0	3.0	3.1	3.3	3.5
54°	2.7	2.8	2.8	3.0	3.1	3.3
54.5°	2.5	2.5	2.7	2.8	2.9	3.1
55°	2.3	2.4	2.4	2.5	2.8	2.9
55.5°	2.2	2.3	2.3	2.4	2.5	2.7
56°	2.1	2.1	2.2	2.3	2.4	2.5
56.5°	1.9	2.0	2.0	2.1	2.2	2.3
57°	1.8	1.9	1.9	2.0	2.1	2.2
57.5°	1.7	1.8	1.8	1.9	2.0	2.0
58°	1.6	1.7	1.7	1.8	1.9	1.9
58.5°	1.6	1.6	1.6	1.7	1.8	1.8
59°	1.5	1.5	1.5	1.6	1.7	1.7
59.5°	1.4	1.4	1.5	1.5	1.6	1.6
60°	1.3	1.4	1.4	1.4	1.5	1.5
60.5°	1.2	1.3	1.3	1.3	1.4	1.4
61°	1.2	1.2	1.2	1.3	1.3	1.4
61.5°	1.1	1.1	1.2	1.2	1.2	1.3
62°	1.1	1.1	1.1	1.1	1.2	1.2
62.5°	1.0	1.0	1.0	1.1	1.1	1.1
63°	0.9	1.0	1.0	1.0	1.0	1.1
63.5°	0.9	0.9	0.9	1.0	1.0	1.0
64°	0.8	0.9	0.9	0.9	0.9	1.0
64.5°	0.8	0.8	0.8	0.8	0.9	0.9
65°	0.8	0.8	0.8	0.8	0.8	0.9
65.5°	0.7	0.7	0.7	0.8	0.8	0.8
66°	0.7	0.7	0.7	0.7	0.7	0.8



TEST NUMBER: P775656

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.6	0.6	0.6	0.6	0.6	0.6
68°	0.5	0.6	0.6	0.6	0.6	0.6
68.5°	0.5	0.5	0.5	0.5	0.5	0.6
69°	0.5	0.5	0.5	0.5	0.5	0.5
69.5°	0.4	0.5	0.5	0.5	0.5	0.5
70°	0.4	0.4	0.4	0.4	0.5	0.5
70.5°	0.4	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.4	0.4	0.4	0.4
72°	0.3	0.3	0.3	0.3	0.3	0.3
72.5°	0.3	0.3	0.3	0.3	0.3	0.3
73°	0.3	0.3	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.3	0.3	0.3
74.5°	0.2	0.2	0.2	0.2	0.2	0.2
75°	0.2	0.2	0.2	0.2	0.2	0.2
75.5°	0.2	0.2	0.2	0.2	0.2	0.2
76°	0.2	0.2	0.2	0.2	0.2	0.2
76.5°	0.2	0.2	0.2	0.2	0.2	0.2
77°	0.2	0.2	0.2	0.2	0.2	0.2
77.5°	0.1	0.2	0.2	0.2	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	0.1
80.5°	0.1	0.1	0.1	0.1	0.1	0.1
81°	0.1	0.1	0.1	0.1	0.1	0.1
81.5°	0.1	0.1	0.1	0.1	0.0	0.0
82°	0.1	0.1	0.1	0.1	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: P775656

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-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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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°	435.9	451.0	465.8	469.5	467.6	466.2	461.9	452.8	439.1	425.5	402.6
22°	428.3	444.7	461.1	464.7	461.9	460.8	457.2	447.1	432.0	416.9	391.8



44°	25.2	31.0	40.5	43.9	43.7	40.9	37.8	33.3	27.4	20.5	15.4
44.5°	21.5	27.0	34.7	38.1	37.9	35.5	32.4	28.7	23.8	17.8	13.5



66.5°	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6
67°	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.6



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°	395.5	397.6	401.1	408.9	421.5	435.9
22°	385.0	388.0	390.8	398.4	411.8	428.3



44°	15.5	17.6	16.8	16.3	18.2	25.2
44.5°	13.3	15.2	14.6	14.4	16.0	21.5

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66.5°	0.6	0.7	0.7	0.7	0.7	0.7
67°	0.6	0.6	0.6	0.6	0.7	0.7

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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)