

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: P775757

Luminaire Tested: HCDJBS510CSD-HCD62TRMB-1000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775757
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B058)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD62TRMB-1000lm-3500K
Description: 6 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 722.6 lumens
Efficiency: N/A
Efficacy: 72.3 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.11
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

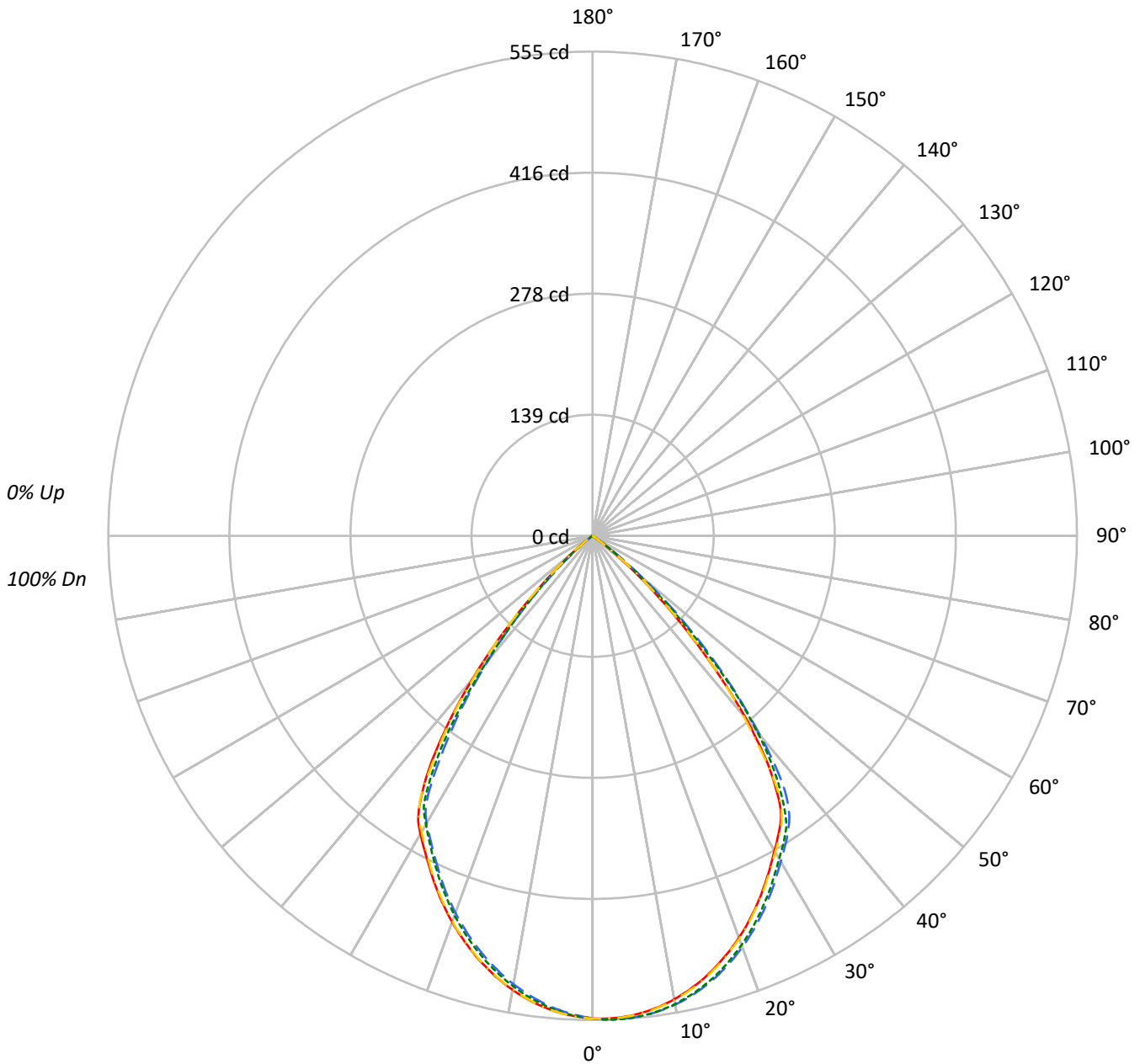
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	100	100	100
1	113	110	107	105	111	108	105	103	104	102	100	100	98	97	97	95	94	92	92	92	92
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85	85	85	85
3	101	94	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	77	77	77
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71	71	71	71
5	89	80	73	69	87	79	73	68	77	72	68	75	71	67	74	70	66	65	65	65	65
6	84	74	67	63	82	73	67	62	72	66	62	70	65	62	69	64	61	60	60	60	60
7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55	55	55	55
8	75	64	57	53	73	63	57	53	62	57	53	61	56	52	60	56	52	51	51	51	51
9	70	60	53	49	69	59	53	49	58	53	49	57	52	48	56	52	48	47	47	47	47
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	44	44	44	44

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	30332	30332	30332	30332
5°	30332	30492	30024	29914
10°	30026	30332	29419	29186
15°	29438	29870	28553	28207
20°	28603	29123	27477	27017
25°	27552	28145	26203	25580
30°	26390	27067	24979	24194
35°	24976	25665	21924	20699
40°	19537	21032	15343	13597
45°	11490	13265	7745	6799
50°	4529	5475	2260	2269
55°	659	860	191	229
60°	143	164	132	110
65°	104	104	91	78
70°	80	80	64	64
75°	64	64	42	42
80°	32	32	32	32
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 14676 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.9	7.2
10°-20°	143.7	19.9
20°-30°	204.3	28.3
30°-40°	211.0	29.2
40°-50°	100.8	14.0
50°-60°	9.7	1.3
60°-70°	0.8	0.1
70°-80°	0.3	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°	399.9	55.3
0°-40°	610.9	84.5
0°-60°	721.5	99.9
0°-90°	722.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	722.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	553	553	553	553	553	
5°	551	554	546	544	551	52
15°	519	526	503	497	519	146
25°	456	465	433	423	456	209
35°	373	384	328	309	373	226
45°	148	171	100	88	148	116
55°	7	9	2	2	7	13
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°	553.3	553.3	553.3	553.3	553.3	553.3	553.3	553.3	553.3	553.3	553.3
0.5°	553.4	553.4	553.6	553.3	554.2	554.0	553.7	553.6	552.9	552.6	552.2
1°	553.7	553.8	554.0	553.9	554.6	554.2	553.9	553.4	552.5	552.0	551.6
1.5°	553.7	554.0	554.3	554.3	554.8	554.4	554.0	553.2	551.9	551.3	550.6
2°	553.7	554.2	554.6	554.7	555.1	554.6	553.9	552.8	551.4	550.4	549.7
2.5°	553.4	554.2	554.8	554.9	555.1	554.6	553.8	552.3	550.6	549.6	548.7
3°	553.1	554.2	554.8	555.0	555.1	554.5	553.4	551.9	549.8	548.6	547.5
3.5°	552.8	554.0	554.8	555.1	555.0	554.3	553.1	551.3	549.0	547.5	546.3
4°	552.4	553.7	554.6	555.0	554.8	554.1	552.7	550.4	548.0	546.3	544.9
4.5°	551.9	553.2	554.4	554.9	554.6	553.7	552.2	549.6	546.9	544.9	543.6
5°	551.2	552.7	554.1	554.6	554.1	553.1	551.6	548.7	545.6	543.6	542.1
5.5°	550.4	552.3	553.8	554.3	553.6	552.6	550.9	547.7	544.2	542.0	540.5
6°	549.6	551.7	553.2	553.8	553.0	552.0	550.0	546.8	542.9	540.6	538.7
6.5°	548.6	551.0	552.6	553.3	552.3	551.2	549.2	545.6	541.4	538.9	536.9
7°	547.5	550.0	551.9	552.7	551.6	550.3	548.2	544.3	539.9	537.1	535.0
7.5°	546.4	549.1	551.1	552.0	550.6	549.4	547.1	543.0	538.2	535.2	533.0
8°	545.3	548.1	550.2	551.3	549.8	548.4	545.9	541.5	536.3	533.3	531.1
8.5°	543.9	546.9	549.2	550.2	548.7	547.2	544.6	540.0	534.5	531.3	528.9
9°	542.5	545.8	548.2	549.3	547.5	546.1	543.2	538.2	532.7	529.2	526.7
9.5°	541.0	544.4	547.0	548.2	546.3	544.6	541.7	536.6	530.6	527.0	524.3
10°	539.4	543.0	545.7	546.9	544.9	543.3	540.2	534.6	528.5	524.7	522.0
10.5°	537.7	541.4	544.3	545.7	543.5	541.8	538.5	532.7	526.3	522.2	519.6
11°	535.9	539.9	543.0	544.2	541.9	540.2	536.8	530.7	524.0	519.9	517.0
11.5°	534.2	538.2	541.3	542.8	540.3	538.4	535.0	528.7	521.7	517.4	514.3
12°	532.2	536.3	539.8	541.2	538.5	536.8	533.0	526.5	519.2	514.9	511.7
12.5°	530.0	534.5	538.0	539.6	536.8	534.9	531.0	524.2	516.8	512.2	508.8
13°	527.9	532.5	536.1	537.8	534.8	533.0	528.9	521.9	514.2	509.4	506.1
13.5°	525.8	530.5	534.2	536.0	532.8	530.9	526.8	519.3	511.4	506.7	503.2
14°	523.5	528.5	532.2	534.0	530.7	528.8	524.4	517.0	508.7	503.8	500.2
14.5°	521.1	526.3	530.0	532.0	528.5	526.4	522.0	514.4	505.9	500.9	497.1
15°	518.7	524.0	527.9	529.8	526.3	524.0	519.7	511.6	503.1	497.9	493.9
15.5°	516.2	521.5	525.8	527.5	524.0	521.5	517.1	508.9	500.2	494.8	490.9
16°	513.5	519.0	523.3	525.3	521.5	519.0	514.5	506.1	497.1	491.7	487.7
16.5°	510.8	516.5	520.8	522.9	519.0	516.5	511.9	503.2	494.1	488.3	484.5
17°	508.1	514.0	518.2	520.5	516.3	514.0	509.1	500.3	490.9	485.2	481.1
17.5°	505.3	511.3	515.7	517.9	513.6	511.2	506.3	497.4	487.7	482.0	477.7
18°	502.6	508.5	513.0	515.2	510.8	508.4	503.4	494.3	484.5	478.6	474.1
18.5°	499.6	505.6	510.2	512.5	508.0	505.3	500.3	491.1	481.2	475.2	470.7
19°	496.4	502.8	507.5	509.8	505.1	502.6	497.4	487.9	477.9	471.7	467.2
19.5°	493.4	499.9	504.6	506.9	502.2	499.4	494.4	484.7	474.5	468.2	463.5
20°	490.3	496.8	501.7	504.0	499.2	496.4	491.3	481.3	471.0	464.6	459.7
20.5°	487.1	493.7	498.7	501.0	496.1	493.2	488.0	478.1	467.4	460.9	456.0
21°	484.0	490.6	495.6	498.0	492.8	490.1	484.7	474.6	463.8	457.3	452.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	473.7	480.8	486.0	488.2	483.0	480.2	474.6	464.0	452.7	445.7	440.6
23°	470.2	477.2	482.6	485.0	479.5	476.7	471.0	460.4	448.8	441.8	436.4
23.5°	466.6	473.7	479.2	481.5	476.0	473.2	467.5	456.6	444.9	437.9	432.4
24°	462.8	470.1	475.8	478.3	472.5	469.7	463.9	452.9	441.0	433.9	428.2
24.5°	459.2	466.7	472.3	474.8	468.9	466.1	460.3	449.2	437.1	429.8	424.2
25°	455.5	463.0	468.8	471.1	465.3	462.4	456.5	445.3	433.2	425.8	419.9
25.5°	451.7	459.2	465.0	467.5	461.6	458.7	452.8	441.5	429.2	421.7	415.8
26°	447.9	455.7	461.4	463.9	458.0	455.0	449.1	437.6	425.2	417.7	411.6
26.5°	444.0	452.0	457.7	460.3	454.2	451.1	445.2	433.7	421.3	413.5	407.7
27°	440.1	448.2	453.9	456.5	450.5	447.4	441.4	429.8	417.1	409.6	403.6
27.5°	436.2	444.3	450.2	452.7	446.7	443.6	437.6	425.7	413.3	405.6	399.6
28°	432.4	440.5	446.4	449.0	442.7	439.8	433.6	421.9	409.5	401.9	395.7
28.5°	428.3	436.6	442.6	445.0	438.8	435.9	429.8	418.2	405.8	398.1	392.0
29°	424.4	432.8	438.8	441.3	435.1	432.1	426.0	414.3	402.1	394.2	388.1
29.5°	420.7	429.0	435.0	437.6	431.3	428.3	422.4	410.7	398.3	390.4	384.3
30°	416.9	425.2	431.2	433.7	427.6	424.7	418.7	407.0	394.6	386.7	380.4
30.5°	413.2	421.5	427.5	430.0	424.0	421.0	415.2	403.5	390.9	382.7	376.2
31°	409.6	418.0	424.0	426.4	420.6	417.4	411.5	399.8	387.0	378.6	371.8
31.5°	405.8	414.3	420.3	422.8	416.9	413.9	408.0	396.1	382.8	373.5	366.2
32°	402.2	410.7	416.7	419.2	413.4	410.4	404.4	392.2	376.8	366.7	358.7
32.5°	398.6	407.1	413.3	415.8	409.8	406.9	400.7	387.9	370.1	358.7	350.0
33°	394.7	403.5	409.7	412.1	406.0	402.8	396.6	382.8	362.5	349.5	340.0
33.5°	390.6	399.7	406.0	408.6	401.8	398.8	392.3	376.6	354.4	339.8	329.7
34°	386.1	395.6	402.0	404.7	396.8	394.0	387.4	369.7	346.1	329.4	318.8
34.5°	380.1	391.1	397.9	400.4	390.5	388.4	382.0	361.8	337.1	319.3	307.9
35°	373.2	385.8	393.0	395.2	383.5	381.8	375.8	353.6	327.6	309.0	296.7
35.5°	365.6	379.9	387.7	388.9	376.1	374.5	368.7	344.8	317.6	298.6	286.0
36°	357.2	372.8	381.3	381.9	368.6	366.7	360.5	335.4	306.7	288.6	274.6
36.5°	348.8	365.1	374.3	374.3	360.6	358.0	350.9	325.4	295.6	278.5	263.7
37°	339.6	356.2	366.2	366.3	352.6	349.0	339.9	315.0	284.1	267.7	252.7
37.5°	329.9	346.6	357.2	358.3	343.8	339.3	328.1	303.7	273.0	256.9	241.8
38°	319.4	335.9	346.6	349.7	335.0	329.2	315.3	291.9	261.4	245.4	230.5
38.5°	308.4	324.6	335.8	340.5	325.2	318.7	303.1	279.4	249.8	234.0	219.1
39°	296.9	312.2	323.8	331.0	315.2	307.4	290.9	267.1	238.0	222.0	207.9
39.5°	285.2	300.1	311.3	320.7	304.7	295.8	279.4	254.1	226.5	210.4	196.9
40°	273.0	287.5	299.0	310.3	293.9	283.5	267.8	241.1	214.4	198.7	185.6
40.5°	260.7	274.4	286.7	299.4	282.6	271.3	256.7	228.3	202.6	187.7	174.7
41°	247.6	261.3	274.7	287.8	271.5	259.3	245.2	215.6	190.5	176.3	163.9
41.5°	234.7	249.2	263.0	275.9	259.6	247.3	233.5	203.0	178.4	165.5	153.3
42°	221.4	237.0	251.1	263.5	247.5	235.6	221.5	190.8	166.1	154.6	142.7
42.5°	208.7	224.7	239.6	251.4	234.8	224.0	209.2	179.0	154.0	143.7	132.2
43°	195.9	212.5	227.6	238.8	222.1	212.3	197.2	167.4	142.2	132.6	121.9
43.5°	183.8	200.5	215.9	226.6	209.1	200.7	185.5	155.9	130.9	122.0	112.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	148.2	164.6	180.1	189.3	171.1	165.4	151.6	124.2	99.9	92.2	84.1
45.5°	137.4	153.1	168.9	177.4	158.6	153.9	140.6	114.2	90.6	82.6	74.7
46°	126.3	142.0	157.5	165.3	146.7	142.6	129.8	105.1	81.3	73.0	65.4
46.5°	115.5	131.4	146.6	153.7	134.8	131.7	119.3	96.0	71.9	63.4	57.4
47°	105.1	121.3	135.7	142.2	123.4	120.7	108.6	86.9	64.1	55.5	49.8
47.5°	95.2	111.3	125.1	130.8	112.3	110.0	99.3	77.7	56.5	47.8	42.8
48°	85.7	101.7	114.8	119.6	102.6	99.9	90.0	68.6	49.4	40.5	36.5
48.5°	76.7	92.5	104.3	108.8	93.0	89.9	80.6	60.4	43.0	34.3	30.8
49°	68.2	83.4	94.3	98.2	83.3	79.8	71.4	52.9	37.0	28.7	25.7
49.5°	60.3	74.8	84.7	88.3	73.7	69.8	63.4	46.0	31.6	23.7	21.4
50°	53.1	66.6	75.4	78.7	64.2	60.6	55.3	39.4	26.5	19.6	17.5
50.5°	46.3	58.5	66.7	69.5	55.8	52.2	47.7	33.4	22.1	16.2	14.4
51°	39.9	50.8	57.9	61.0	48.1	44.3	40.5	28.1	18.0	13.9	12.3
51.5°	34.4	43.4	50.0	52.7	41.0	37.3	34.1	23.2	15.5	11.5	10.3
52°	29.8	36.8	42.7	45.2	34.3	30.9	27.7	18.9	13.1	9.2	8.2
52.5°	25.1	31.9	35.7	38.0	28.2	25.1	22.2	16.2	10.6	6.9	6.1
53°	20.4	27.0	30.7	32.9	22.6	20.1	17.4	13.5	8.1	4.7	4.0
53.5°	15.8	22.0	25.7	27.7	17.7	16.0	14.6	10.9	5.6	3.4	2.9
54°	12.4	17.0	20.7	22.6	14.8	13.3	11.8	8.3	3.1	2.5	2.2
54.5°	9.4	12.1	15.8	17.4	11.9	10.7	9.1	5.6	2.3	2.0	1.9
55°	6.9	8.8	10.8	12.3	9.0	8.1	6.3	3.0	2.0	1.8	1.8
55.5°	4.8	6.3	7.8	9.0	6.0	5.5	3.5	2.2	1.8	1.8	1.7
56°	3.2	4.3	5.3	6.3	3.1	2.9	2.5	1.9	1.8	1.7	1.6
56.5°	2.8	3.7	3.5	4.1	2.3	2.2	2.0	1.8	1.7	1.6	1.6
57°	2.4	3.2	3.1	3.5	2.0	1.9	1.9	1.8	1.6	1.6	1.5
57.5°	2.0	2.7	2.6	2.9	1.9	1.8	1.8	1.7	1.6	1.5	1.3
58°	1.7	2.2	2.2	2.4	1.8	1.8	1.7	1.6	1.5	1.3	1.3
58.5°	1.6	1.7	1.8	1.8	1.7	1.7	1.7	1.6	1.3	1.3	1.2
59°	1.5	1.6	1.7	1.7	1.6	1.6	1.6	1.5	1.3	1.2	1.2
59.5°	1.5	1.6	1.6	1.7	1.6	1.6	1.5	1.3	1.2	1.2	1.1
60°	1.3	1.5	1.6	1.6	1.5	1.5	1.5	1.3	1.2	1.1	1.1
60.5°	1.2	1.3	1.5	1.5	1.3	1.3	1.3	1.2	1.1	1.1	1.0
61°	1.2	1.3	1.3	1.5	1.3	1.3	1.2	1.1	1.0	1.0	1.0
61.5°	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.1	1.0	1.0	0.9
62°	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.0	0.9	0.9	0.9
62.5°	1.0	1.1	1.1	1.2	1.1	1.1	1.1	1.0	0.9	0.9	0.8
63°	1.0	1.0	1.1	1.1	1.0	1.0	1.0	0.9	0.9	0.8	0.8
63.5°	0.9	1.0	1.0	1.1	1.0	1.0	1.0	0.9	0.8	0.8	0.8
64°	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.7
64.5°	0.8	0.9	0.9	1.0	0.9	0.9	0.9	0.8	0.7	0.7	0.7
65°	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7
65.5°	0.7	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6
66°	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.6



TEST NUMBER: P775757

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5
68°	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5
68.5°	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
69°	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4
69.5°	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
70.5°	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
71°	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3
72°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
72.5°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
73°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2
74.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
75°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
75.5°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
76°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
76.5°	0.2	0.2	0.3	0.3	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°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
78°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
78.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
79°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
79.5°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
80°	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.1	0.1	0.1	0.2	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°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
82°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
82.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
83°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
83.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
84°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.1	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: P775757

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-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: P775757

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	553.3	553.3	553.3	553.3	553.3	553.3
0.5°	552.0	553.1	553.0	553.0	553.4	553.4
1°	551.2	552.4	552.4	552.6	553.2	553.7
1.5°	550.2	551.7	551.7	552.1	552.9	553.7
2°	549.2	550.9	551.0	551.5	552.6	553.7
2.5°	548.1	549.8	550.0	550.6	552.2	553.4
3°	546.9	548.8	549.1	549.8	551.6	553.1
3.5°	545.6	547.6	548.0	548.9	550.9	552.8
4°	544.1	546.4	546.8	547.9	550.1	552.4
4.5°	542.7	545.1	545.6	546.7	549.3	551.9
5°	541.2	543.6	544.2	545.5	548.4	551.2
5.5°	539.5	542.1	542.8	544.2	547.2	550.4
6°	537.7	540.5	541.1	542.8	546.1	549.6
6.5°	535.8	538.8	539.6	541.2	544.9	548.6
7°	534.0	537.1	537.9	539.7	543.6	547.5
7.5°	531.9	535.2	536.0	538.0	542.1	546.4
8°	529.7	533.2	534.2	536.1	540.6	545.3
8.5°	527.5	531.1	532.1	534.4	539.0	543.9
9°	525.1	528.9	530.0	532.4	537.4	542.5
9.5°	522.8	526.7	527.8	530.2	535.6	541.0
10°	520.5	524.3	525.6	528.2	533.6	539.4
10.5°	517.9	522.0	523.3	525.9	531.7	537.7
11°	515.3	519.4	520.8	523.7	529.5	535.9
11.5°	512.6	517.0	518.3	521.3	527.5	534.2
12°	509.8	514.4	515.7	518.8	525.4	532.2
12.5°	507.0	511.6	513.1	516.2	523.0	530.0
13°	504.1	508.9	510.4	513.6	520.5	527.9
13.5°	501.1	506.0	507.6	510.9	518.2	525.8
14°	498.1	503.1	504.8	508.3	515.6	523.5
14.5°	495.1	500.1	501.9	505.5	513.1	521.1
15°	491.9	497.0	498.8	502.6	510.3	518.7
15.5°	488.7	493.9	495.8	499.5	507.6	516.2
16°	485.4	490.7	492.6	496.5	504.8	513.5
16.5°	482.0	487.4	489.4	493.5	501.9	510.8
17°	478.7	484.2	486.2	490.4	498.9	508.1
17.5°	475.2	480.8	482.9	487.1	495.9	505.3
18°	471.7	477.4	479.5	483.9	492.9	502.6
18.5°	468.2	473.8	476.0	480.5	489.7	499.6
19°	464.5	470.3	472.5	477.1	486.5	496.4
19.5°	460.8	466.7	469.0	473.6	483.3	493.4
20°	456.9	463.1	465.2	470.1	479.8	490.3
20.5°	453.2	459.2	461.6	466.6	476.5	487.1
21°	449.4	455.4	457.8	462.8	473.0	484.0

TEST NUMBER: P775757

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	437.3	443.7	446.2	451.5	462.4	473.7
23°	433.2	439.6	442.2	447.7	458.6	470.2
23.5°	429.2	435.5	438.2	443.8	454.9	466.6
24°	424.9	431.3	434.1	439.8	451.0	462.8
24.5°	420.9	427.2	430.1	435.8	447.3	459.2
25°	416.6	422.9	425.8	431.6	443.4	455.5
25.5°	412.4	418.8	421.8	427.6	439.4	451.7
26°	408.2	414.5	417.5	423.6	435.5	447.9
26.5°	404.1	410.4	413.4	419.4	431.4	444.0
27°	399.9	406.1	409.3	415.3	427.5	440.1
27.5°	396.0	402.0	405.1	411.3	423.5	436.2
28°	392.0	397.9	401.0	407.3	419.5	432.4
28.5°	388.1	393.9	397.0	403.3	415.5	428.3
29°	384.3	390.1	393.2	399.5	411.6	424.4
29.5°	380.3	386.1	389.2	395.8	407.9	420.7
30°	376.4	382.2	385.4	392.0	404.1	416.9
30.5°	372.1	378.2	381.5	388.1	400.4	413.2
31°	367.7	374.2	377.5	384.2	396.8	409.6
31.5°	361.2	370.0	373.3	380.2	393.1	405.8
32°	353.5	365.0	368.4	375.9	389.1	402.2
32.5°	344.9	357.7	361.6	370.5	385.1	398.6
33°	334.9	348.9	353.7	363.6	380.6	394.7
33.5°	324.6	339.3	345.0	354.8	374.3	390.6
34°	313.9	329.7	335.2	344.3	367.1	386.1
34.5°	303.2	319.7	324.7	333.6	358.8	380.1
35°	292.2	309.3	313.1	322.7	349.5	373.2
35.5°	280.6	298.9	301.3	312.0	340.2	365.6
36°	268.8	287.3	289.8	301.6	330.4	357.2
36.5°	256.7	275.7	278.0	291.1	319.8	348.8
37°	244.7	263.5	266.5	280.6	309.0	339.6
37.5°	232.7	251.5	255.2	269.6	297.8	329.9
38°	221.2	238.9	243.6	257.8	286.7	319.4
38.5°	209.7	226.9	232.3	246.0	275.3	308.4
39°	198.3	214.8	220.9	234.0	264.5	296.9
39.5°	187.0	202.6	209.3	221.9	253.3	285.2
40°	175.6	190.0	197.7	209.9	242.2	273.0
40.5°	164.2	178.1	186.2	198.8	230.1	260.7
41°	153.0	166.6	174.8	187.6	218.4	247.6
41.5°	142.2	155.4	163.7	176.8	206.0	234.7
42°	131.2	144.7	152.9	166.3	193.6	221.4
42.5°	121.2	133.9	142.2	155.5	181.4	208.7
43°	111.5	124.1	131.9	144.4	169.4	195.9
43.5°	103.0	114.2	121.7	133.5	157.5	183.8



TEST NUMBER: P775757

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	77.7	87.7	92.5	102.5	123.1	148.2
45.5°	69.3	79.7	83.7	93.0	112.3	137.4
46°	61.5	72.0	75.4	83.8	101.8	126.3
46.5°	54.7	64.8	67.3	74.5	91.6	115.5
47°	48.4	58.2	59.8	65.8	81.8	105.1
47.5°	42.6	51.7	52.7	57.4	72.8	95.2
48°	37.0	45.7	46.1	49.2	64.3	85.7
48.5°	31.8	40.1	40.0	41.9	56.5	76.7
49°	27.2	35.2	34.9	35.0	49.2	68.2
49.5°	22.9	30.9	30.5	30.4	42.6	60.3
50°	19.1	26.6	25.9	25.8	36.4	53.1
50.5°	15.7	22.3	21.5	21.1	31.9	46.3
51°	13.3	18.0	16.9	16.6	27.5	39.9
51.5°	10.9	14.7	13.7	13.6	23.0	34.4
52°	8.6	11.8	11.0	11.0	18.5	29.8
52.5°	6.2	9.1	8.5	8.8	14.1	25.1
53°	3.8	6.7	6.4	6.8	11.2	20.4
53.5°	2.6	4.8	4.7	5.1	8.7	15.8
54°	2.0	3.2	3.2	3.6	6.5	12.4
54.5°	1.8	2.8	2.8	3.1	4.8	9.4
55°	1.7	2.4	2.4	2.6	3.3	6.9
55.5°	1.6	2.0	2.0	2.1	2.9	4.8
56°	1.6	1.6	1.6	1.7	2.5	3.2
56.5°	1.5	1.6	1.5	1.6	2.0	2.8
57°	1.3	1.5	1.5	1.5	1.6	2.4
57.5°	1.3	1.3	1.3	1.5	1.6	2.0
58°	1.2	1.3	1.3	1.3	1.5	1.7
58.5°	1.2	1.2	1.2	1.2	1.5	1.6
59°	1.1	1.2	1.1	1.2	1.3	1.5
59.5°	1.1	1.1	1.1	1.1	1.2	1.5
60°	1.0	1.0	1.0	1.0	1.2	1.3
60.5°	1.0	1.0	1.0	1.0	1.1	1.2
61°	0.9	0.9	0.9	0.9	1.0	1.2
61.5°	0.9	0.9	0.9	0.9	1.0	1.1
62°	0.8	0.9	0.8	0.9	0.9	1.1
62.5°	0.8	0.8	0.8	0.8	0.9	1.0
63°	0.7	0.8	0.8	0.8	0.8	1.0
63.5°	0.7	0.7	0.7	0.7	0.8	0.9
64°	0.7	0.7	0.7	0.7	0.8	0.9
64.5°	0.6	0.7	0.6	0.7	0.7	0.8
65°	0.6	0.6	0.6	0.6	0.7	0.8
65.5°	0.6	0.6	0.6	0.6	0.7	0.7
66°	0.6	0.6	0.6	0.6	0.6	0.7



TEST NUMBER: P775757

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.5	0.5	0.5	0.5	0.5	0.6
68°	0.5	0.5	0.4	0.5	0.5	0.6
68.5°	0.4	0.4	0.4	0.4	0.5	0.5
69°	0.4	0.4	0.4	0.4	0.5	0.5
69.5°	0.4	0.4	0.4	0.4	0.4	0.5
70°	0.4	0.4	0.4	0.4	0.4	0.5
70.5°	0.3	0.4	0.3	0.3	0.4	0.4
71°	0.3	0.3	0.3	0.3	0.4	0.4
71.5°	0.3	0.3	0.3	0.3	0.3	0.4
72°	0.3	0.3	0.3	0.3	0.3	0.4
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°	0.2	0.2	0.2	0.2	0.3	0.3
74°	0.2	0.2	0.2	0.2	0.3	0.3
74.5°	0.2	0.2	0.2	0.2	0.2	0.3
75°	0.2	0.2	0.2	0.2	0.2	0.3
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	0.1	0.1	0.2	0.2
77.5°	0.1	0.1	0.1	0.1	0.2	0.2
78°	0.1	0.1	0.1	0.1	0.1	0.2
78.5°	0.1	0.1	0.1	0.1	0.1	0.2
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	0.1	0.1
82°	0.1	0.1	0.1	0.1	0.1	0.1
82.5°	0.0	0.1	0.1	0.0	0.1	0.1
83°	0.0	0.0	0.0	0.0	0.0	0.1
83.5°	0.0	0.0	0.0	0.0	0.0	0.1
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: P775757

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-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°	480.6	487.2	492.3	494.8	489.6	486.9	481.4	471.0	460.0	453.5	448.3
22°	477.1	484.0	489.3	491.6	486.3	483.5	478.0	467.5	456.4	449.7	444.4



44°	171.7	188.4	203.9	214.1	196.5	189.0	173.9	145.0	120.0	111.3	102.7
44.5°	159.9	176.3	192.1	201.6	183.7	177.3	162.7	134.6	109.4	101.8	93.4



66.5°	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6
67°	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5



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°	445.4	451.4	454.0	459.1	469.6	480.6
22°	441.3	447.4	450.1	455.4	466.0	477.1



44°	94.6	105.0	111.5	122.8	146.0	171.7
44.5°	86.1	96.1	102.0	112.7	134.3	159.9

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66.5°	0.5	0.5	0.5	0.5	0.6	0.7
67°	0.5	0.5	0.5	0.5	0.6	0.6

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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)