

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: P775721

Luminaire Tested: HCDJBL510CSD-HCD61TRH-1000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775721
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B036)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD61TRH-1000lm-3000K
Description: 6 INCH ROUND SHALLOW-WIDE HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

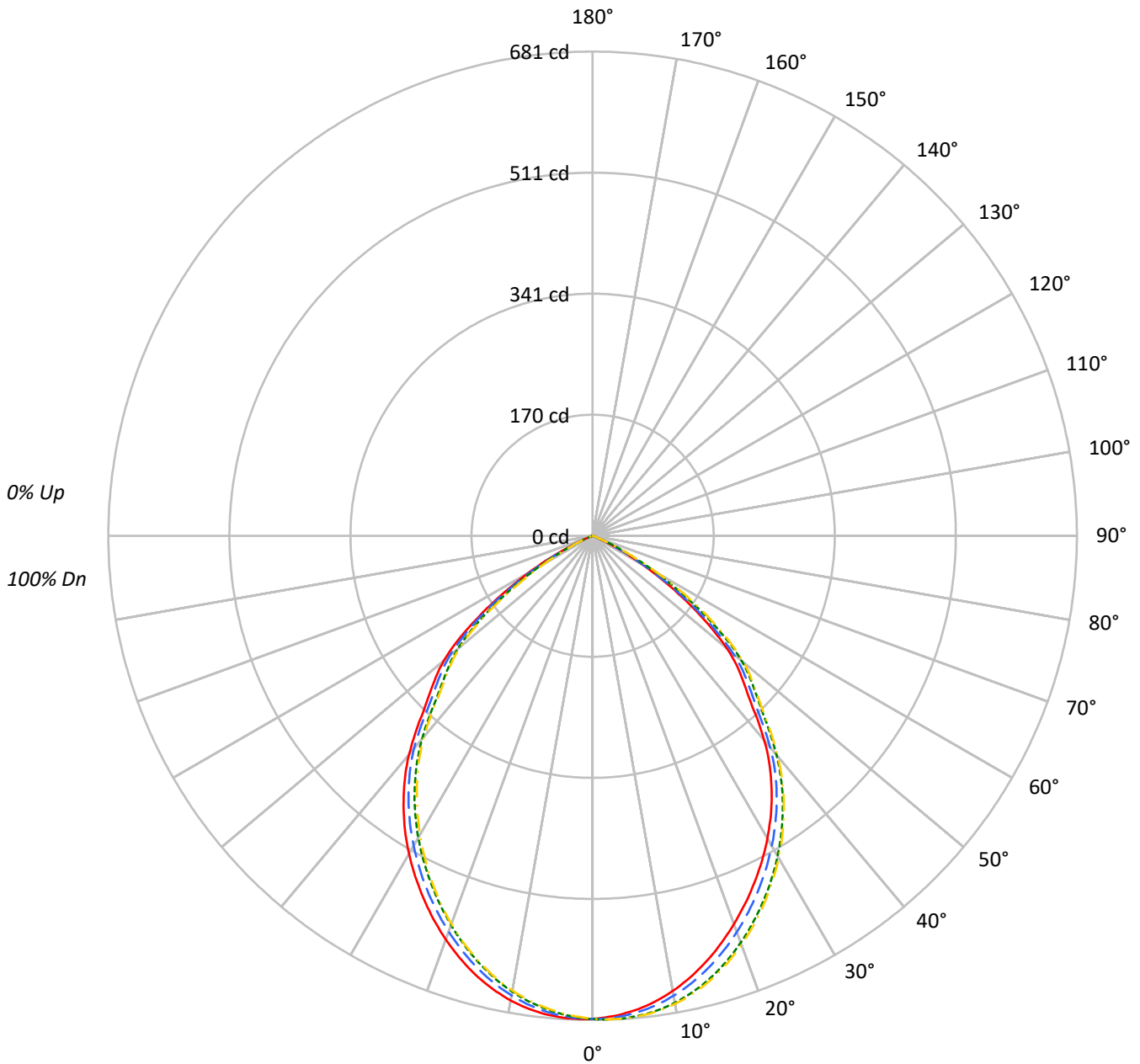
Lumens per Lamp: N/A
Luminaire Lumens: 1213.4 lumens
Efficiency: N/A
Efficacy: 121.3 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.2
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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: P775721
CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-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	100	100	100	100	100		
	1	112	108	105	103	109	106	103	101	102	100	98	98	97	95	95	93	92	90	90	90	90	90	90		
	2	104	98	93	89	102	96	91	87	93	89	86	90	87	84	87	84	82	80	80	80	80	80	80		
	3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71	71	71	71	71	71		
	4	90	80	73	68	88	79	72	67	77	71	66	74	70	65	72	68	65	63	63	63	63	63	63		
	5	84	73	65	60	82	72	65	60	70	64	59	68	63	58	66	62	58	56	56	56	56	56	56		
	6	78	67	59	53	76	66	58	53	64	58	53	62	57	52	61	56	52	50	50	50	50	50	50		
	7	73	61	53	48	71	60	53	48	59	52	48	57	52	47	56	51	47	45	45	45	45	45	45		
	8	68	56	49	43	67	55	48	43	54	48	43	53	47	43	52	47	43	41	41	41	41	41	41		
	9	64	52	45	40	63	51	44	39	50	44	39	49	43	39	48	43	39	37	37	37	37	37	37		
	10	60	48	41	36	59	48	41	36	47	40	36	46	40	36	45	40	36	34	34	34	34	34	34		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	37250	37250	37250	37250
5°	36886	37349	37266	36908
10°	36183	37118	36940	36244
15°	35148	36499	36243	35239
20°	33906	35534	35231	33982
25°	32560	34327	34042	32578
30°	31125	32942	32689	31043
35°	29373	31200	31032	29212
40°	26872	28775	28732	26721
45°	23646	25631	25545	23483
50°	21040	23325	23240	21134
55°	15512	17959	18083	15923
60°	8859	11063	11337	9506
65°	2555	4151	3917	3321
70°	64	96	64	192
75°	42	42	42	42
80°	32	32	32	32
85°	63	0	0	63

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 25879 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.8	5.3
10°-20°	177.3	14.6
20°-30°	253.7	20.9
30°-40°	280.8	23.1
40°-50°	246.7	20.3
50°-60°	157.1	12.9
60°-70°	33.4	2.8
70°-80°	0.3	0.0
80°-90°	0.1	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°	494.9	40.8
0°-40°	775.7	63.9
0°-60°	1179.6	97.2
0°-90°	1213.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1213.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	680	680	680	680	680	
5°	670	679	677	671	670	63
15°	619	643	639	621	619	174
25°	538	568	563	539	538	248
35°	439	466	464	436	439	273
45°	305	331	330	303	305	237
55°	162	188	189	167	162	145
65°	20	32	30	26	20	26
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°	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5	679.5
0.5°	678.9	679.3	679.6	679.5	680.2	680.1	679.8	679.7	679.7	679.7	679.6
1°	678.4	678.8	679.5	679.5	680.4	680.4	680.1	680.0	679.9	679.7	679.4
1.5°	677.8	678.4	679.1	679.5	680.6	680.7	680.4	680.2	679.9	679.6	679.0
2°	677.0	677.8	678.7	679.3	680.6	680.8	680.6	680.3	679.9	679.3	678.6
2.5°	676.2	677.1	678.2	678.9	680.6	680.9	680.6	680.3	679.7	678.9	678.1
3°	675.3	676.3	677.6	678.6	680.4	680.8	680.6	680.1	679.5	678.5	677.5
3.5°	674.1	675.4	676.9	678.1	680.2	680.6	680.5	679.9	679.0	677.9	676.7
4°	672.9	674.4	676.1	677.5	679.8	680.4	680.2	679.6	678.5	677.3	675.8
4.5°	671.6	673.2	675.1	676.7	679.4	680.1	679.9	679.1	677.9	676.5	674.9
5°	670.3	671.9	673.9	675.9	678.7	679.6	679.4	678.5	677.2	675.6	673.8
5.5°	668.7	670.5	672.7	675.0	678.1	678.9	678.8	677.9	676.3	674.6	672.6
6°	667.0	668.9	671.5	673.9	677.3	678.3	678.1	677.1	675.4	673.3	671.2
6.5°	665.4	667.3	670.1	672.7	676.4	677.5	677.3	676.2	674.4	672.1	669.9
7°	663.5	665.6	668.5	671.4	675.4	676.6	676.4	675.2	673.2	670.8	668.3
7.5°	661.5	663.7	666.9	670.0	674.1	675.6	675.4	674.0	671.9	669.2	666.6
8°	659.5	661.7	665.1	668.4	673.0	674.5	674.3	672.7	670.5	667.7	664.9
8.5°	657.2	659.7	663.2	666.9	671.6	673.2	673.0	671.4	668.9	666.0	662.9
9°	655.0	657.4	661.3	665.1	670.1	671.8	671.6	669.9	667.2	664.1	660.9
9.5°	652.5	655.2	659.1	663.2	668.4	670.4	670.1	668.3	665.5	662.2	658.8
10°	650.0	652.6	656.9	661.3	666.8	668.7	668.5	666.6	663.6	660.2	656.6
10.5°	647.3	650.1	654.7	659.1	665.0	667.0	666.8	664.8	661.7	658.0	654.2
11°	644.6	647.5	652.2	656.9	663.0	665.2	665.0	662.7	659.5	655.8	651.8
11.5°	641.7	644.8	649.7	654.6	660.9	663.1	662.9	660.7	657.2	653.3	649.2
12°	638.8	641.9	647.1	652.1	658.7	661.1	660.9	658.4	655.0	650.8	646.6
12.5°	635.8	639.0	644.3	649.7	656.4	658.8	658.6	656.2	652.5	648.2	643.8
13°	632.6	636.1	641.5	647.0	653.9	656.6	656.3	653.7	649.9	645.5	641.0
13.5°	629.4	632.9	638.5	644.2	651.4	654.1	653.8	651.2	647.3	642.7	638.1
14°	626.2	629.8	635.6	641.3	648.7	651.6	651.3	648.5	644.5	639.8	635.1
14.5°	622.8	626.4	632.4	638.5	646.0	648.8	648.5	645.8	641.5	636.8	631.8
15°	619.3	623.0	629.2	635.4	643.1	646.1	645.8	642.8	638.6	633.6	628.6
15.5°	615.9	619.7	625.9	632.3	640.2	643.1	642.8	639.9	635.6	630.5	625.4
16°	612.2	616.1	622.5	628.8	637.1	640.3	639.8	636.8	632.2	627.2	621.9
16.5°	608.6	612.5	619.1	625.8	633.8	637.1	636.6	633.6	629.0	623.8	618.4
17°	604.8	608.8	615.6	622.3	630.6	633.9	633.4	630.4	625.7	620.5	615.0
17.5°	601.0	605.2	611.9	618.7	627.2	630.5	630.2	626.9	622.3	616.9	611.4
18°	597.1	601.4	608.3	615.1	623.7	627.1	626.6	623.4	618.7	613.3	607.5
18.5°	593.2	597.5	604.5	611.6	620.2	623.5	623.1	620.0	615.1	609.7	603.9
19°	589.2	593.7	600.8	607.8	616.5	620.0	619.6	616.3	611.5	606.0	600.1
19.5°	585.4	589.9	596.9	604.1	612.8	616.3	615.9	612.7	607.7	602.2	596.3
20°	581.2	585.8	592.9	600.2	609.1	612.5	612.1	608.9	603.9	598.3	592.3
20.5°	577.1	581.7	588.9	596.2	605.2	608.7	608.3	605.1	600.2	594.4	588.4
21°	572.9	577.7	585.0	592.3	601.3	604.8	604.3	601.2	596.2	590.5	584.2



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CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	560.2	565.2	572.5	579.9	589.0	592.5	592.2	588.9	584.1	578.2	571.9
23°	556.0	561.0	568.2	575.7	584.8	588.3	588.0	584.9	580.0	574.0	567.5
23.5°	551.6	556.7	563.9	571.4	580.6	584.1	583.7	580.7	575.7	569.9	563.3
24°	547.2	552.3	559.4	567.0	576.4	579.9	579.5	576.3	571.5	565.6	558.9
24.5°	542.8	547.9	555.2	562.7	572.0	575.3	575.2	571.9	567.1	561.1	554.6
25°	538.3	543.5	550.7	558.1	567.5	570.9	570.7	567.5	562.8	556.8	550.2
25.5°	533.9	539.1	546.3	553.7	563.0	566.4	566.2	563.1	558.4	552.3	545.8
26°	529.3	534.7	541.8	549.2	558.5	561.7	561.6	558.7	553.9	547.8	541.2
26.5°	524.7	530.2	537.1	544.6	553.9	557.2	557.1	554.1	549.3	543.2	536.7
27°	520.3	525.7	532.5	540.1	549.3	552.4	552.5	549.3	544.8	538.6	532.1
27.5°	515.6	521.1	527.9	535.2	544.5	547.7	547.8	544.7	540.3	534.0	527.4
28°	510.9	516.4	523.1	530.5	539.8	543.1	542.9	540.2	535.6	529.3	522.6
28.5°	506.1	511.6	518.3	525.6	535.0	538.0	538.0	535.4	530.9	524.5	518.0
29°	501.3	507.0	513.5	520.8	530.2	533.1	533.2	530.4	526.1	519.7	513.2
29.5°	496.5	502.1	508.7	515.8	525.3	528.1	528.3	525.5	521.3	514.9	508.4
30°	491.7	497.3	503.8	510.9	520.4	523.3	523.2	520.7	516.4	510.1	503.4
30.5°	486.6	492.4	498.8	506.0	515.1	518.0	518.0	515.7	511.3	505.0	498.4
31°	481.5	487.4	493.8	500.8	510.1	512.8	513.0	510.4	506.4	500.2	493.5
31.5°	476.5	482.4	488.6	495.6	504.7	507.6	507.7	505.4	501.2	495.0	488.5
32°	471.4	477.4	483.5	490.4	499.5	502.5	502.4	500.2	496.2	489.8	483.4
32.5°	466.2	472.1	478.3	485.1	494.2	497.0	496.9	494.9	491.0	484.7	478.1
33°	460.9	466.9	473.0	479.8	488.8	491.5	491.7	489.5	485.7	479.5	472.9
33.5°	455.6	461.5	467.7	474.3	483.2	486.0	486.1	484.1	480.1	474.3	467.7
34°	450.0	456.2	462.3	469.0	477.7	480.6	480.5	478.6	474.7	468.8	462.3
34.5°	444.5	450.8	456.8	463.2	472.1	474.5	474.7	472.9	469.2	463.3	456.9
35°	438.9	445.1	451.3	457.6	466.2	468.9	469.0	467.2	463.7	457.9	451.3
35.5°	433.1	439.5	445.7	451.8	460.5	462.9	463.1	461.5	457.9	452.4	445.7
36°	427.3	433.9	439.8	446.0	454.5	457.1	457.2	455.7	452.3	446.8	440.2
36.5°	421.3	427.9	434.0	439.9	448.6	450.8	451.2	449.5	446.4	440.9	434.5
37°	415.3	421.9	428.1	433.9	442.2	444.6	444.8	443.4	440.6	435.0	428.6
37.5°	409.2	415.7	422.0	427.8	436.0	438.1	438.4	437.2	434.3	429.2	422.7
38°	402.8	409.5	415.8	421.3	429.5	431.7	432.1	430.8	428.0	423.1	417.0
38.5°	396.4	403.1	409.3	414.7	422.9	425.1	425.6	424.1	421.8	416.9	410.6
39°	389.6	396.6	402.7	408.2	416.2	418.2	418.7	417.5	415.3	410.6	404.1
39.5°	382.7	389.3	395.7	401.1	409.1	411.3	411.8	410.7	408.6	403.8	397.3
40°	375.5	382.2	388.3	393.8	402.1	404.2	404.6	403.7	401.5	397.0	390.9
40.5°	367.8	374.6	380.9	386.4	394.5	396.8	397.5	396.5	394.3	389.8	383.4
41°	360.3	367.1	373.3	378.9	387.2	389.4	389.9	389.0	387.1	382.4	376.0
41.5°	353.0	359.5	365.8	371.5	379.8	382.0	382.7	381.6	379.5	374.7	368.4
42°	345.5	352.0	358.2	363.9	372.4	374.9	375.5	374.5	372.3	367.6	361.5
42.5°	337.4	344.0	350.3	356.2	364.9	367.4	368.2	367.3	364.9	360.2	353.8
43°	330.0	336.6	343.0	348.7	357.3	359.8	360.6	359.5	357.3	352.4	346.3
43.5°	323.2	329.6	336.1	341.8	350.1	352.7	353.4	352.1	349.4	344.5	338.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	305.0	311.4	317.5	322.9	330.6	333.1	333.8	332.4	329.5	324.5	318.7
45.5°	299.3	305.7	311.9	317.2	324.7	327.1	327.8	326.4	323.5	318.7	312.8
46°	294.0	300.4	306.4	311.7	319.0	321.3	322.0	320.5	317.8	313.0	307.2
46.5°	288.7	295.1	300.9	306.2	313.4	315.7	316.5	315.1	312.3	307.5	301.7
47°	283.5	289.8	295.7	300.8	307.9	310.2	310.9	309.6	306.8	302.2	296.5
47.5°	278.3	284.6	290.4	295.5	302.5	304.9	305.6	304.1	301.4	296.9	291.2
48°	273.0	279.3	284.9	290.2	297.1	299.6	300.2	298.8	296.2	291.7	285.9
48.5°	267.1	273.3	279.2	284.6	291.8	294.3	295.0	293.7	290.8	286.4	280.7
49°	260.6	266.5	272.5	278.4	285.9	288.7	289.6	288.2	285.1	280.4	275.0
49.5°	254.1	259.6	265.7	271.9	279.8	282.8	283.6	282.0	278.9	274.0	268.5
50°	246.7	252.0	258.1	264.7	273.5	276.8	277.6	275.8	272.5	267.6	262.1
50.5°	238.8	244.2	250.5	257.4	266.6	269.9	270.6	269.4	265.7	260.8	254.9
51°	230.7	236.3	242.3	249.4	259.1	262.2	263.3	262.1	258.6	253.4	247.6
51.5°	222.6	228.1	234.1	241.0	251.2	254.5	255.9	254.2	251.1	245.7	239.9
52°	214.2	219.6	225.5	232.3	242.7	246.6	248.0	246.4	243.1	237.8	232.1
52.5°	205.7	211.0	217.2	223.4	233.9	238.4	239.8	238.2	234.5	229.4	224.0
53°	197.1	202.4	208.1	214.1	224.8	229.9	231.8	229.6	225.4	220.6	215.8
53.5°	188.4	193.5	199.3	204.8	215.6	221.5	223.6	221.2	216.6	212.1	207.3
54°	179.6	184.6	190.0	195.3	206.3	212.5	215.0	212.1	207.5	203.1	198.6
54.5°	170.9	176.1	180.8	186.0	197.2	203.6	206.1	203.1	198.2	194.1	189.8
55°	162.3	167.2	171.4	176.7	187.9	194.9	197.6	194.3	189.2	185.1	181.2
55.5°	153.5	158.3	162.4	167.4	178.9	185.7	188.9	185.3	180.4	175.9	172.3
56°	144.9	149.3	153.2	157.9	169.6	176.5	179.7	175.9	171.3	166.6	163.4
56.5°	136.4	140.7	143.9	148.8	160.5	167.7	170.7	167.1	162.5	157.6	154.5
57°	128.1	131.8	134.7	139.7	151.4	158.3	161.6	158.2	153.6	148.7	145.8
57.5°	119.7	123.3	125.9	131.0	142.9	149.4	152.8	149.5	145.1	139.8	136.9
58°	111.5	114.7	117.4	122.3	134.2	140.3	143.6	140.6	136.4	130.9	128.3
58.5°	103.6	106.4	108.8	114.0	125.8	131.6	134.6	132.2	128.3	122.6	119.9
59°	95.7	98.1	100.4	105.7	117.4	122.9	125.6	123.5	119.8	114.3	111.4
59.5°	88.4	90.2	92.5	97.6	109.1	114.4	116.7	115.4	111.4	106.3	103.4
60°	80.8	82.2	84.6	89.8	100.9	105.9	108.2	106.8	103.4	98.9	95.7
60.5°	73.6	74.7	77.0	82.3	93.3	98.1	100.1	99.1	95.8	91.4	88.2
61°	66.6	67.4	69.6	74.6	85.7	90.2	92.0	91.4	88.3	84.0	80.6
61.5°	59.9	60.5	62.7	68.0	78.1	82.4	84.0	83.7	80.7	76.5	73.1
62°	53.3	53.7	56.1	61.0	70.4	74.5	75.9	75.9	73.2	69.1	65.5
62.5°	47.1	47.4	49.7	54.5	63.3	66.6	67.9	68.2	65.6	62.4	58.9
63°	41.1	41.2	43.8	48.4	56.4	59.5	60.6	61.0	57.9	55.9	52.5
63.5°	35.0	35.7	38.0	42.5	49.8	52.5	53.7	54.0	50.6	49.7	46.4
64°	29.9	31.2	33.5	36.7	43.6	46.0	47.1	47.5	43.6	43.7	40.7
64.5°	24.8	26.8	29.0	32.1	37.6	39.8	40.9	41.0	36.7	38.1	35.3
65°	19.7	22.6	24.5	27.6	32.0	33.9	35.1	35.1	30.2	32.6	30.3
65.5°	14.6	18.2	20.0	23.0	26.7	28.5	29.6	29.4	24.4	27.6	25.8
66°	10.7	13.8	15.5	18.4	21.8	23.4	24.5	24.1	19.0	22.8	21.3



TEST NUMBER: P775721

CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	3.4	5.8	6.7	7.4	11.4	12.3	13.3	13.0	8.7	12.7	11.9
68°	2.7	4.0	4.7	5.0	8.5	9.2	9.9	9.8	5.2	9.7	9.3
68.5°	1.9	3.1	2.9	3.2	5.4	6.0	6.6	6.6	1.7	6.7	6.5
69°	1.2	2.2	2.2	2.4	2.4	3.0	3.4	3.5	0.8	3.9	3.9
69.5°	0.5	1.3	1.6	1.7	1.2	1.5	1.7	1.9	0.5	2.3	2.2
70°	0.4	0.5	1.0	1.0	0.6	0.7	0.8	0.9	0.4	1.2	1.2
70.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.6	0.6
71°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
71.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
72°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
72.5°	0.3	0.3	0.3	0.3	0.3	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	0.3	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°	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
74.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
75°	0.2	0.2	0.2	0.2	0.2	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	0.2	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°	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2
78°	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
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°	0.1	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°	0.1	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	0.1	0.1	0.1
83°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
83.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
84°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1
84.5°	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1
85°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
85.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
86°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
86.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
87°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
87.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
88°	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
88.5°	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1



TEST NUMBER: P775721

CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.1	0.3	0.3	0.2	0.1	0.0	0.0	0.1	0.0	0.2	0.1



TEST NUMBER: P775721

CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	679.5	679.5	679.5	679.5	679.5	679.5
0.5°	679.0	679.4	679.0	678.6	678.7	678.9
1°	678.7	678.8	678.4	678.0	678.1	678.4
1.5°	678.2	678.1	677.6	677.2	677.3	677.8
2°	677.7	677.4	676.8	676.4	676.6	677.0
2.5°	677.0	676.5	675.9	675.4	675.6	676.2
3°	676.2	675.6	674.9	674.4	674.6	675.3
3.5°	675.4	674.5	673.7	673.2	673.4	674.1
4°	674.4	673.3	672.5	672.0	672.2	672.9
4.5°	673.2	672.0	671.2	670.6	670.9	671.6
5°	672.0	670.7	669.9	669.2	669.5	670.3
5.5°	670.7	669.1	668.3	667.6	667.8	668.7
6°	669.2	667.6	666.7	666.1	666.2	667.0
6.5°	667.6	666.0	665.1	664.4	664.4	665.4
7°	666.0	664.1	663.2	662.5	662.6	663.5
7.5°	664.2	662.2	661.3	660.6	660.7	661.5
8°	662.3	660.3	659.2	658.5	658.5	659.5
8.5°	660.3	658.1	657.2	656.4	656.4	657.2
9°	658.1	655.9	655.0	654.2	654.0	655.0
9.5°	655.9	653.5	652.6	651.9	651.7	652.5
10°	653.5	651.1	650.2	649.5	649.1	650.0
10.5°	651.1	648.5	647.6	646.9	646.6	647.3
11°	648.4	645.9	645.0	644.2	643.8	644.6
11.5°	645.8	643.0	642.2	641.5	641.1	641.7
12°	643.1	640.3	639.3	638.6	638.1	638.8
12.5°	640.2	637.2	636.4	635.7	635.2	635.8
13°	637.2	634.1	633.4	632.7	632.0	632.6
13.5°	634.0	630.9	630.3	629.4	628.8	629.4
14°	630.9	627.6	627.0	626.2	625.6	626.2
14.5°	627.7	624.3	623.7	622.9	622.2	622.8
15°	624.2	620.9	620.3	619.4	618.6	619.3
15.5°	620.8	617.4	616.7	616.0	615.2	615.9
16°	617.3	613.7	613.0	612.3	611.6	612.2
16.5°	613.7	610.1	609.4	608.7	607.8	608.6
17°	610.2	606.4	605.7	605.0	604.1	604.8
17.5°	606.5	602.5	601.8	601.1	600.2	601.0
18°	602.6	598.6	597.9	597.2	596.3	597.1
18.5°	598.7	594.7	593.8	593.2	592.3	593.2
19°	594.8	590.7	589.9	589.1	588.3	589.2
19.5°	590.9	586.7	585.8	585.1	584.2	585.4
20°	586.9	582.5	581.5	580.8	580.1	581.2
20.5°	582.8	578.3	577.3	576.6	575.9	577.1
21°	578.7	573.9	573.0	572.2	571.6	572.9



TEST NUMBER: P775721

CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	566.1	561.1	559.7	558.9	558.6	560.2
23°	561.8	556.6	555.3	554.1	554.2	556.0
23.5°	557.5	552.1	550.7	549.7	549.7	551.6
24°	553.1	547.6	546.0	545.0	545.3	547.2
24.5°	548.6	543.1	541.4	540.4	540.6	542.8
25°	544.2	538.6	536.6	535.5	536.0	538.3
25.5°	539.7	534.0	531.9	530.9	531.5	533.9
26°	535.2	529.3	527.0	525.8	526.8	529.3
26.5°	530.6	524.5	522.3	521.1	522.1	524.7
27°	526.0	519.8	517.3	516.1	517.3	520.3
27.5°	521.4	515.1	512.4	511.1	512.4	515.6
28°	516.7	510.2	507.4	506.1	507.5	510.9
28.5°	511.9	505.3	502.4	501.0	502.6	506.1
29°	507.1	500.4	497.3	495.8	497.7	501.3
29.5°	502.3	495.4	492.2	490.7	492.6	496.5
30°	497.4	490.4	486.9	485.6	487.5	491.7
30.5°	492.4	485.3	481.7	480.3	482.4	486.6
31°	487.5	480.0	476.4	474.8	477.2	481.5
31.5°	482.3	474.8	471.1	469.5	471.9	476.5
32°	477.1	469.6	465.6	464.1	466.7	471.4
32.5°	472.0	464.3	460.1	458.7	461.3	466.2
33°	466.7	458.8	454.7	453.3	455.9	460.9
33.5°	461.4	453.3	449.2	447.7	450.5	455.6
34°	455.9	447.8	443.7	442.1	444.9	450.0
34.5°	450.4	442.2	437.9	436.5	439.3	444.5
35°	444.8	436.5	432.2	430.8	433.6	438.9
35.5°	439.2	430.7	426.6	425.0	427.9	433.1
36°	433.6	424.7	420.7	419.2	422.1	427.3
36.5°	427.7	418.8	414.8	413.3	416.3	421.3
37°	421.7	412.7	408.7	407.4	410.2	415.3
37.5°	415.7	406.5	402.6	401.4	404.1	409.2
38°	409.4	400.2	396.5	395.1	397.9	402.8
38.5°	403.1	393.7	390.0	388.8	391.5	396.4
39°	396.5	387.2	383.7	382.5	385.1	389.6
39.5°	389.9	380.3	376.9	375.9	378.1	382.7
40°	383.1	373.4	369.8	368.8	371.0	375.5
40.5°	375.9	366.2	362.6	361.6	363.5	367.8
41°	368.4	358.7	355.2	354.1	356.3	360.3
41.5°	361.0	351.3	347.8	346.9	348.7	353.0
42°	353.8	344.2	340.6	339.5	341.6	345.5
42.5°	346.5	336.9	333.2	331.8	333.7	337.4
43°	339.0	329.2	325.6	324.5	326.3	330.0
43.5°	331.4	321.8	318.3	317.2	319.1	323.2

TEST NUMBER: P775721

CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	311.7	302.9	299.6	298.7	300.7	305.0
45.5°	305.8	297.1	293.8	293.1	295.1	299.3
46°	300.3	291.7	288.5	287.7	289.8	294.0
46.5°	294.8	286.5	283.2	282.5	284.5	288.7
47°	289.8	281.4	278.0	277.3	279.3	283.5
47.5°	284.5	275.9	272.9	272.1	274.2	278.3
48°	279.4	271.0	267.8	267.0	269.0	273.0
48.5°	274.3	265.6	262.7	261.7	263.6	267.1
49°	268.7	260.2	257.1	255.9	257.6	260.6
49.5°	262.5	253.9	251.2	250.0	251.1	254.1
50°	256.0	247.8	244.9	243.7	244.3	246.7
50.5°	249.1	240.6	238.2	236.6	236.8	238.8
51°	241.6	233.3	230.6	228.9	229.0	230.7
51.5°	234.0	225.3	222.8	220.6	221.0	222.6
52°	226.3	217.4	214.4	212.2	212.4	214.2
52.5°	218.3	208.9	205.8	203.6	203.7	205.7
53°	210.1	200.5	197.2	194.7	194.9	197.1
53.5°	201.7	192.0	188.3	185.8	186.0	188.4
54°	193.3	183.5	179.5	177.0	177.2	179.6
54.5°	184.8	175.1	170.8	168.1	168.3	170.9
55°	176.5	166.6	162.0	159.1	159.5	162.3
55.5°	168.0	158.0	153.4	150.0	150.9	153.5
56°	159.3	149.6	144.7	141.2	142.4	144.9
56.5°	150.9	141.3	136.3	132.7	134.0	136.4
57°	142.3	133.2	127.8	124.1	125.5	128.1
57.5°	134.0	125.1	119.6	115.8	117.3	119.7
58°	125.7	117.2	111.6	107.9	109.2	111.5
58.5°	117.4	109.2	103.9	99.9	101.5	103.6
59°	109.2	101.5	96.3	92.4	93.6	95.7
59.5°	101.5	94.1	88.8	85.0	86.3	88.4
60°	94.0	86.7	81.5	77.9	79.2	80.8
60.5°	86.4	79.3	74.6	71.1	72.1	73.6
61°	78.9	72.4	67.8	64.7	65.2	66.6
61.5°	71.3	65.5	61.4	58.7	59.1	59.9
62°	64.3	58.8	55.2	52.6	52.9	53.3
62.5°	57.6	52.4	49.3	47.0	46.8	47.1
63°	51.0	46.2	43.7	41.6	41.1	41.1
63.5°	44.8	40.4	38.5	36.7	36.0	35.0
64°	38.9	34.8	34.1	32.7	31.8	29.9
64.5°	33.6	30.2	29.8	28.5	27.7	24.8
65°	28.4	25.6	25.5	24.4	23.4	19.7
65.5°	23.7	21.1	21.1	20.3	19.2	14.6
66°	19.4	16.5	16.8	16.2	14.9	10.7



TEST NUMBER: P775721

CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	10.6	7.4	7.9	7.8	6.4	3.4
68°	8.2	5.3	5.7	5.5	4.5	2.7
68.5°	5.7	3.7	3.8	3.7	3.7	1.9
69°	3.3	2.9	3.0	2.9	2.9	1.2
69.5°	1.9	2.0	2.1	2.0	2.0	0.5
70°	1.0	1.2	1.2	1.2	1.2	0.4
70.5°	0.5	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	0.3	0.3	0.3	0.3	0.3
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	0.2	0.2
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°	0.2	0.2	0.2	0.2	0.2	0.2
78°	0.2	0.2	0.2	0.2	0.2	0.2
78.5°	0.1	0.2	0.2	0.2	0.2	0.1
79°	0.1	0.1	0.2	0.2	0.2	0.1
79.5°	0.1	0.1	0.2	0.2	0.1	0.1
80°	0.1	0.1	0.2	0.2	0.1	0.1
80.5°	0.1	0.1	0.2	0.2	0.1	0.1
81°	0.1	0.1	0.2	0.2	0.1	0.1
81.5°	0.1	0.1	0.2	0.2	0.1	0.1
82°	0.1	0.1	0.2	0.2	0.1	0.1
82.5°	0.1	0.1	0.2	0.2	0.1	0.1
83°	0.1	0.1	0.2	0.2	0.1	0.1
83.5°	0.1	0.1	0.2	0.2	0.1	0.1
84°	0.1	0.1	0.2	0.2	0.1	0.1
84.5°	0.1	0.1	0.2	0.2	0.1	0.1
85°	0.1	0.1	0.2	0.2	0.2	0.1
85.5°	0.1	0.1	0.2	0.2	0.2	0.1
86°	0.1	0.1	0.2	0.2	0.2	0.1
86.5°	0.1	0.1	0.2	0.3	0.2	0.1
87°	0.1	0.1	0.3	0.3	0.3	0.1
87.5°	0.1	0.2	0.3	0.4	0.3	0.1
88°	0.1	0.2	0.4	0.5	0.4	0.1
88.5°	0.1	0.2	0.5	0.6	0.5	0.1



TEST NUMBER: P775721

CATALOG NUMBER: HCDJBL510CSD-HCD61TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.1	0.4	0.7	0.5	0.7	0.1

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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
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°	568.7	573.5	580.8	588.1	597.3	600.7	600.3	597.1	592.1	586.5	580.2
22°	564.4	569.3	576.6	584.1	593.2	596.7	596.3	593.0	588.1	582.4	576.0



44°	316.8	323.3	329.5	335.2	343.4	346.0	346.6	345.1	342.3	337.3	331.5
44.5°	310.7	317.2	323.4	328.9	336.9	339.3	339.9	338.7	335.7	330.7	324.6



66.5°	7.8	10.6	12.1	13.8	17.5	18.7	19.8	19.3	15.5	18.5	17.5
67°	5.3	8.0	9.3	10.4	14.5	15.5	16.5	16.1	12.0	15.5	14.7



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

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21.5°	574.6	569.6	568.6	567.8	567.4	568.7
22°	570.3	565.4	564.2	563.2	562.9	564.4



44°	324.3	315.1	311.9	310.6	312.8	316.8
44.5°	317.8	308.9	305.5	304.6	306.7	310.7



66.5°	15.6	13.0	13.6	13.1	11.7	7.8
67°	13.1	9.9	10.5	10.2	8.9	5.3

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89°	0.1	0.3	0.5	0.7	0.5	0.1
89.5°	0.1	0.3	0.6	0.7	0.6	0.1

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(END OF REPORT)