

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: P775679

Luminaire Tested: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775679
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B004)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K
Description: 4 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1084.5 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1.09 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

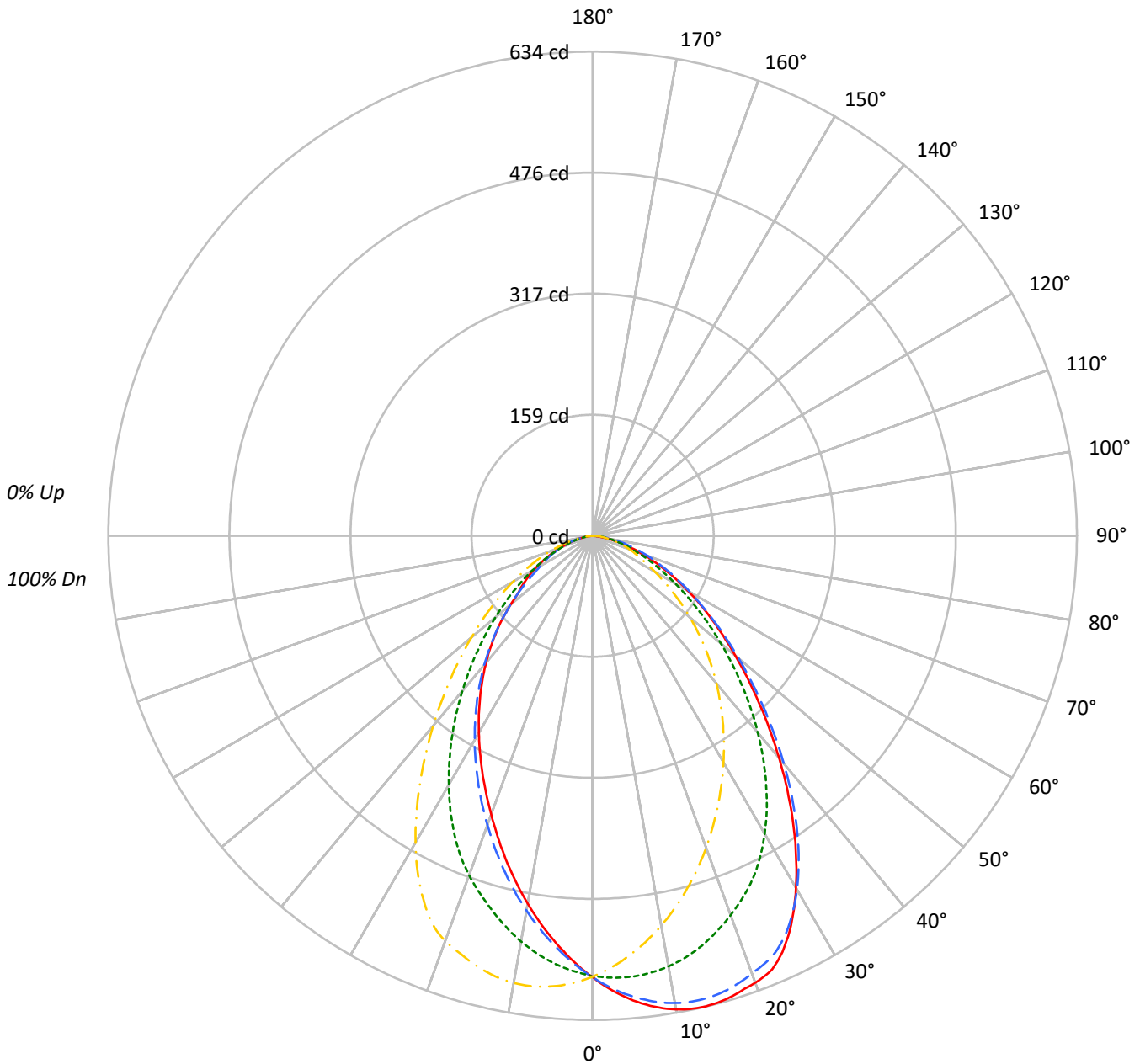
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88								
2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78	76								
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66								
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58								
5	81	70	62	56	79	69	61	55	67	60	55	65	59	54	63	58	54	52								
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46								
7	70	58	50	45	69	57	50	44	56	49	44	54	48	44	53	48	44	42								
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38								
9	62	49	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	35								
10	58	46	39	34	57	45	38	34	45	38	34	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	72691	72691	72691	72691
5°	77163	73221	67802	71074
10°	80483	73160	62515	68943
15°	82460	72324	57158	66187
20°	83396	70794	52004	63334
25°	82469	68847	47421	59585
30°	77411	65495	43276	54713
35°	70257	60824	39438	49240
40°	62412	55266	35666	43585
45°	54675	49175	31734	37892
50°	47655	42917	27469	32520
55°	41688	36949	24552	27624
60°	36371	31462	22225	23106
65°	30821	26652	19118	18999
70°	25352	22335	15749	15307
75°	19498	18672	12740	12010
80°	12466	15509	9059	8914
85°	3754	13573	3610	4187

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 56544 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.2	5.0
10°-20°	150.2	13.8
20°-30°	212.8	19.6
30°-40°	222.3	20.5
40°-50°	187.1	17.3
50°-60°	132.9	12.3
60°-70°	80.6	7.4
70°-80°	37.0	3.4
80°-90°	7.4	0.7
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°	417.1	38.5
0°-40°	639.5	59.0
0°-60°	959.5	88.5
0°-90°	1084.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1084.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	578	578	578	578	578	
5°	611	580	537	563	611	59
15°	633	555	439	508	633	179
25°	594	496	342	429	594	271
35°	457	396	257	320	457	285
45°	307	276	178	213	307	238
55°	190	168	112	126	190	171
65°	104	90	64	64	104	103
75°	40	38	26	25	40	43
85°	3	9	2	3	3	5
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°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
0.5°	582.1	582.1	581.5	580.2	577.1	575.9	575.2	574.6	574.6	574.5	575.0
1°	585.8	585.7	584.5	582.2	577.7	575.2	573.0	571.3	570.7	570.5	571.6
1.5°	589.4	589.4	587.5	584.2	578.4	574.2	570.6	567.9	566.8	566.5	568.0
2°	592.8	592.8	590.5	586.1	578.9	573.3	568.1	564.4	562.6	562.4	564.4
2.5°	596.1	596.2	593.3	587.9	579.3	572.1	565.7	560.8	558.4	558.2	560.7
3°	599.2	599.4	596.1	589.5	579.6	570.9	563.1	557.2	554.3	554.0	557.1
3.5°	602.3	602.5	598.6	591.0	579.8	569.5	560.4	553.4	550.0	549.6	553.3
4°	605.2	605.6	601.1	592.5	579.8	568.1	557.6	549.6	545.5	545.2	549.4
4.5°	608.0	608.4	603.4	593.8	579.8	566.5	554.7	545.6	541.1	540.9	545.4
5°	610.8	611.2	605.7	595.0	579.6	564.9	551.7	541.7	536.7	536.4	541.5
5.5°	613.2	613.9	607.8	596.1	579.4	563.2	548.7	537.6	532.1	531.7	537.4
6°	615.7	616.4	609.8	597.1	579.0	561.4	545.5	533.6	527.5	527.1	533.3
6.5°	617.9	618.8	611.6	598.0	578.6	559.6	542.4	529.5	522.9	522.5	529.1
7°	620.1	621.0	613.5	598.7	578.1	557.6	539.2	525.3	518.1	517.9	525.0
7.5°	622.1	623.2	615.1	599.4	577.3	555.5	535.8	521.0	513.4	513.1	520.6
8°	623.9	625.1	616.6	599.8	576.6	553.3	532.4	516.7	508.6	508.3	516.2
8.5°	625.5	626.9	617.9	600.2	575.7	551.0	528.9	512.4	503.8	503.5	511.8
9°	627.1	628.6	619.2	600.6	574.8	548.7	525.5	508.0	498.9	498.6	507.5
9.5°	628.5	630.1	620.3	600.8	573.7	546.3	521.8	503.5	494.0	493.8	503.0
10°	629.8	631.5	621.2	600.8	572.5	543.7	518.1	499.0	489.2	488.8	498.4
10.5°	630.8	632.7	622.0	600.7	571.2	541.1	514.3	494.6	484.2	483.8	493.8
11°	631.7	633.7	622.7	600.6	569.8	538.4	510.8	489.9	479.2	478.9	489.2
11.5°	632.4	634.6	623.2	600.1	568.4	535.7	506.7	485.3	474.3	474.0	484.6
12°	633.0	635.3	623.6	599.7	566.8	532.8	502.8	480.6	469.2	468.9	480.0
12.5°	633.4	635.9	623.8	599.2	565.0	530.0	498.7	476.0	464.2	463.9	475.2
13°	633.6	636.3	623.9	598.4	563.2	527.0	494.9	471.2	459.2	458.7	470.6
13.5°	633.7	636.5	623.8	597.6	561.3	523.9	490.8	466.6	454.0	453.7	465.8
14°	633.5	636.6	623.6	596.6	559.4	520.7	486.7	461.7	448.9	448.5	461.0
14.5°	633.3	636.5	623.2	595.5	557.2	517.5	482.5	456.9	443.9	443.4	456.2
15°	632.9	636.2	622.6	594.3	555.1	514.3	478.2	452.0	438.7	438.4	451.3
15.5°	632.2	635.7	622.0	593.0	552.8	510.9	474.1	447.2	433.6	433.3	446.5
16°	631.6	635.1	621.1	591.5	550.3	507.5	469.8	442.4	428.5	428.0	441.7
16.5°	630.6	634.4	620.2	589.9	547.9	503.9	465.5	437.6	423.4	422.9	436.9
17°	629.7	633.5	619.0	588.2	545.3	500.5	461.2	432.7	418.2	417.8	432.0
17.5°	628.5	632.5	617.8	586.4	542.5	496.8	456.7	427.8	413.1	412.8	427.2
18°	627.3	631.4	616.4	584.5	539.9	493.2	452.3	422.9	408.1	407.6	422.3
18.5°	625.9	630.1	615.0	582.4	537.1	489.4	447.9	417.9	403.1	402.5	417.4
19°	624.8	628.7	613.4	580.4	534.3	485.8	443.6	413.0	398.1	397.4	412.6
19.5°	623.8	627.4	611.8	578.2	531.5	482.1	438.9	408.2	393.3	392.5	407.7
20°	622.7	626.4	610.0	575.9	528.6	478.4	434.4	403.3	388.3	387.5	402.9
20.5°	621.6	625.2	608.4	573.8	525.6	474.5	429.9	398.4	383.6	382.7	398.0
21°	620.2	623.9	607.0	571.7	522.6	470.7	425.5	393.7	378.7	377.8	393.2



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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°	614.3	618.9	601.4	564.6	513.3	459.1	411.7	379.5	364.6	363.5	378.8
23°	611.0	616.4	599.2	562.1	510.0	455.1	407.2	374.9	359.8	358.8	374.0
23.5°	607.3	613.6	596.7	559.3	506.6	451.1	402.5	370.2	355.3	354.3	369.3
24°	603.3	610.0	593.5	556.2	503.1	447.0	398.0	365.6	350.7	349.5	364.5
24.5°	599.0	606.0	590.0	553.0	499.5	442.7	393.3	361.2	346.1	344.9	359.8
25°	593.9	601.9	586.3	549.4	495.8	438.5	388.8	356.5	341.5	340.4	355.1
25.5°	588.8	597.7	582.2	545.5	491.8	434.2	384.2	352.1	337.2	335.9	350.4
26°	583.7	592.9	578.0	541.5	487.8	429.8	379.6	347.5	332.7	331.4	345.7
26.5°	578.1	587.5	573.5	537.1	483.5	425.4	374.8	343.1	328.2	326.8	341.0
27°	572.1	582.4	568.8	532.5	479.2	421.0	370.2	338.6	323.7	322.5	336.3
27.5°	565.8	576.9	563.7	527.8	474.6	416.4	365.6	334.2	319.5	318.1	331.8
28°	559.8	570.9	558.3	522.8	470.1	411.8	361.1	329.7	315.0	313.7	327.2
28.5°	553.1	564.8	552.9	517.8	465.3	407.2	356.4	325.4	310.8	309.3	322.6
29°	546.4	558.7	547.2	512.5	460.5	402.4	351.8	321.1	306.5	305.0	318.0
29.5°	539.6	552.1	541.3	507.1	455.5	397.8	347.3	316.7	302.1	300.7	313.4
30°	532.7	545.5	535.2	501.6	450.7	392.9	342.6	312.4	297.8	296.4	308.9
30.5°	525.4	538.7	528.9	495.8	445.5	388.0	338.0	308.2	293.7	292.2	304.3
31°	518.1	531.7	522.4	490.1	440.3	383.2	333.4	303.8	289.4	287.9	299.7
31.5°	510.8	524.4	515.8	484.0	435.0	378.2	328.9	299.4	285.4	283.5	295.2
32°	503.3	517.3	509.1	477.9	429.7	373.3	324.3	295.2	281.1	279.4	290.8
32.5°	495.7	509.9	502.0	471.9	424.2	368.4	319.8	291.0	277.0	275.2	286.2
33°	488.3	502.5	495.1	465.7	418.6	363.3	315.1	286.7	272.9	271.1	281.7
33.5°	480.7	494.8	488.0	459.2	413.1	358.3	310.6	282.6	268.8	266.9	277.1
34°	473.0	487.3	480.7	452.7	407.4	353.2	305.9	278.4	264.8	262.7	272.8
34.5°	465.0	479.3	473.0	446.2	401.7	348.1	301.5	274.2	260.7	258.6	268.3
35°	457.3	471.6	465.7	439.4	395.9	342.9	296.9	270.0	256.7	254.5	263.8
35.5°	449.7	463.7	458.2	432.7	390.2	337.9	292.4	265.8	252.8	250.5	259.4
36°	442.0	456.2	450.6	425.9	384.3	332.8	287.8	261.8	248.7	246.3	255.2
36.5°	434.1	448.3	443.0	419.1	378.4	327.5	283.3	257.6	244.8	242.3	250.7
37°	426.1	440.2	435.5	412.1	372.5	322.4	278.7	253.5	240.7	238.2	246.3
37.5°	418.5	432.3	427.8	405.2	366.5	317.3	274.3	249.4	236.8	234.2	242.1
38°	410.8	424.4	420.1	398.2	360.5	312.0	269.7	245.4	232.8	230.2	237.7
38.5°	403.0	416.4	412.2	391.1	354.6	306.9	265.4	241.3	228.8	226.2	233.3
39°	395.1	408.7	404.8	384.1	348.6	301.7	260.8	237.2	225.0	222.2	229.2
39.5°	387.6	400.8	397.0	377.1	342.5	296.5	256.5	233.1	221.2	218.2	224.8
40°	379.9	392.8	389.4	370.0	336.4	291.2	252.0	229.0	217.1	214.2	220.6
40.5°	372.1	384.9	381.6	363.0	330.3	286.1	247.5	224.9	213.2	210.2	216.3
41°	364.6	377.4	374.3	355.8	324.3	280.9	243.1	220.9	209.3	206.1	212.2
41.5°	357.2	369.7	366.6	348.9	318.4	275.8	238.8	216.9	205.5	202.2	207.9
42°	349.9	361.9	359.2	342.0	312.2	270.5	234.3	212.8	201.5	198.3	203.8
42.5°	342.4	354.2	351.8	334.9	306.3	265.5	229.9	208.9	197.6	194.4	199.7
43°	335.3	347.0	344.3	328.2	300.3	260.4	225.6	204.9	193.8	190.4	195.6
43.5°	328.2	339.5	337.0	321.2	294.2	255.3	221.2	200.9	189.9	186.5	191.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	307.2	317.7	315.5	301.0	276.3	240.0	208.4	189.0	178.3	174.9	179.3
45.5°	300.5	310.6	308.5	294.2	270.4	235.0	204.0	184.9	174.6	171.0	175.2
46°	293.7	303.6	301.6	287.7	264.6	230.0	199.7	181.1	170.7	167.2	171.1
46.5°	286.8	296.8	294.8	281.2	258.8	225.1	195.5	177.1	166.9	163.3	167.2
47°	280.6	290.0	287.9	274.8	252.8	220.1	191.2	173.2	163.0	159.5	163.5
47.5°	274.2	283.2	281.2	268.3	247.1	215.2	187.0	169.3	159.1	155.7	159.3
48°	267.6	276.5	274.7	262.0	241.4	210.4	182.8	165.5	155.5	152.0	155.5
48.5°	261.5	270.3	268.3	255.9	235.9	205.6	178.7	161.5	151.6	148.1	151.6
49°	255.6	263.9	262.0	249.8	230.2	200.7	174.6	157.8	147.8	144.5	148.0
49.5°	249.5	257.5	255.7	243.8	224.7	196.1	170.4	154.0	144.1	140.8	144.1
50°	243.4	251.3	249.4	237.9	219.2	191.3	166.3	150.1	140.3	137.1	140.4
50.5°	237.9	245.5	243.3	231.8	213.8	186.6	162.3	146.3	136.5	133.5	136.7
51°	232.1	239.6	237.3	226.2	208.6	182.0	158.2	142.6	132.9	129.8	133.1
51.5°	226.4	233.5	231.5	220.4	203.3	177.4	154.3	138.8	129.3	126.4	129.5
52°	221.1	228.0	225.8	214.9	198.0	173.0	150.4	135.2	125.6	122.9	125.9
52.5°	215.8	222.5	220.1	209.4	192.9	168.4	146.4	131.5	122.3	119.4	122.3
53°	210.3	216.8	214.5	203.9	187.9	164.0	142.6	127.9	120.5	116.0	118.9
53.5°	204.9	211.5	209.1	198.6	182.9	159.6	138.6	124.3	118.6	112.8	115.5
54°	200.2	206.2	203.7	193.3	177.9	155.3	134.9	120.8	116.4	110.9	112.2
54.5°	195.1	201.1	198.4	188.2	173.1	151.0	131.2	117.4	114.1	108.9	108.9
55°	190.0	196.0	193.3	183.1	168.4	146.8	127.5	114.1	111.9	106.7	105.7
55.5°	185.5	191.0	188.3	178.2	163.7	142.7	123.9	110.7	109.4	104.5	102.6
56°	180.7	186.1	183.3	173.2	159.0	138.6	120.3	108.2	107.1	102.3	99.5
56.5°	175.9	181.3	178.5	168.5	154.4	134.6	116.7	106.3	104.7	99.9	96.5
57°	171.4	176.5	173.7	163.8	150.0	130.6	113.2	104.2	102.3	97.7	93.6
57.5°	166.9	172.0	169.0	159.2	145.7	126.7	109.8	102.0	99.9	95.4	91.1
58°	162.1	167.4	164.4	154.6	141.4	122.9	106.5	99.8	97.7	93.2	88.5
58.5°	157.7	162.8	159.9	150.2	137.1	119.2	103.3	97.6	95.3	91.0	85.9
59°	153.1	158.5	155.5	145.9	133.0	115.5	100.1	95.2	93.0	88.8	83.4
59.5°	148.6	154.0	151.2	141.6	128.9	111.9	96.9	93.0	90.6	86.7	80.8
60°	144.5	149.6	146.9	137.3	125.0	108.3	93.8	90.9	88.3	84.5	78.9
60.5°	139.8	145.3	142.8	133.3	121.0	104.9	91.1	88.6	85.9	82.3	77.0
61°	135.7	140.8	138.5	129.2	117.3	101.5	88.3	86.4	83.6	80.1	75.1
61.5°	131.5	136.8	134.7	125.4	113.5	98.1	85.5	84.2	81.3	77.9	73.2
62°	127.4	132.7	130.7	121.5	109.8	95.0	82.7	82.0	78.8	75.8	71.2
62.5°	123.3	128.5	126.8	117.7	106.2	91.9	80.0	79.7	76.3	73.6	69.3
63°	119.1	124.5	122.9	113.9	102.7	88.9	77.3	77.4	73.9	71.3	67.4
63.5°	115.2	120.5	119.2	110.3	99.2	85.8	75.0	75.1	71.4	69.2	65.5
64°	111.1	116.7	115.6	106.6	95.8	82.9	72.7	72.8	69.0	67.0	63.8
64.5°	107.4	112.7	112.0	103.2	92.7	79.8	70.8	70.6	66.5	64.7	62.0
65°	103.5	109.1	108.4	99.8	89.5	77.1	69.0	68.5	64.2	62.6	60.1
65.5°	99.9	105.2	104.9	96.5	86.3	74.3	67.2	66.1	61.8	60.4	58.3
66°	96.1	101.7	101.5	93.2	83.2	71.4	65.3	64.0	59.5	58.2	56.6



TEST NUMBER: P775679

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	85.5	91.1	91.5	83.7	74.2	64.0	59.8	57.5	52.7	51.9	51.4
68°	82.0	87.7	88.3	80.7	71.2	61.5	58.0	55.3	50.5	49.8	49.7
68.5°	78.6	84.3	85.2	77.6	68.6	59.2	56.3	53.3	48.5	47.9	48.0
69°	75.4	81.0	82.1	74.7	65.9	56.9	54.5	51.2	46.5	45.9	46.3
69.5°	72.1	77.7	78.9	71.9	63.2	54.7	52.7	49.2	44.7	44.0	44.6
70°	68.9	74.6	76.0	69.2	60.7	52.6	51.0	47.1	42.8	42.2	42.9
70.5°	65.7	71.6	73.2	66.3	58.1	50.5	49.3	45.3	40.9	40.4	41.2
71°	62.6	68.5	70.3	63.8	55.8	48.5	47.6	43.4	39.2	38.7	39.6
71.5°	59.6	65.5	67.3	61.1	53.3	46.6	45.9	41.6	37.5	37.0	37.9
72°	56.7	62.5	64.6	58.5	51.1	44.7	44.1	39.9	35.8	35.3	36.3
72.5°	53.7	59.7	61.8	56.1	48.7	42.9	42.4	38.2	34.1	33.7	34.7
73°	50.9	56.9	59.2	53.5	46.6	41.2	40.8	36.5	32.5	32.1	33.1
73.5°	48.1	54.1	56.5	51.2	44.4	39.3	39.1	34.9	30.9	30.5	31.5
74°	45.3	51.5	54.0	48.9	42.3	37.6	37.5	33.3	29.3	28.9	30.0
74.5°	42.7	48.8	51.5	46.6	40.3	36.0	36.0	31.7	27.8	27.4	28.6
75°	40.1	46.3	48.9	44.4	38.4	34.4	34.3	30.2	26.2	25.8	27.1
75.5°	37.6	43.7	46.5	42.2	36.5	32.8	32.8	28.7	24.7	24.3	25.7
76°	35.2	41.4	44.1	40.1	34.7	31.4	31.2	27.1	23.4	22.8	24.3
76.5°	32.8	38.9	41.8	38.1	32.8	29.9	29.9	25.6	21.9	21.4	22.9
77°	30.4	36.7	39.6	36.1	31.1	28.5	28.4	24.2	20.5	19.9	21.5
77.5°	28.0	34.5	37.4	34.1	29.3	27.1	27.0	22.8	19.1	18.6	20.3
78°	25.8	32.3	35.4	32.2	27.7	25.7	25.5	21.3	17.7	17.2	18.9
78.5°	23.5	30.1	33.3	30.3	26.0	24.4	24.2	19.9	16.3	15.8	17.6
79°	21.3	27.9	31.1	28.5	24.5	23.2	22.8	18.6	15.0	14.5	16.3
79.5°	19.2	25.9	29.1	26.7	22.9	22.0	21.4	17.3	13.8	13.2	15.0
80°	17.2	23.9	27.1	25.0	21.4	20.8	20.2	15.9	12.5	11.9	13.9
80.5°	15.1	21.9	25.3	23.2	20.0	19.6	18.9	14.6	11.2	10.8	12.7
81°	13.2	20.0	23.5	21.6	18.7	18.4	17.6	13.3	10.0	9.7	11.6
81.5°	11.3	18.2	21.5	20.0	17.4	17.3	16.4	12.2	8.9	8.6	10.5
82°	9.4	16.5	19.8	18.6	16.1	16.1	15.1	10.9	7.7	7.6	9.5
82.5°	7.7	14.8	18.2	17.1	14.8	14.9	14.0	9.9	6.5	6.5	8.5
83°	6.0	13.2	16.6	15.7	13.6	13.9	12.8	8.9	5.3	5.4	7.6
83.5°	4.4	11.7	15.1	14.3	12.5	12.8	11.7	7.8	4.3	4.7	6.6
84°	3.8	10.3	13.6	12.9	11.4	11.6	10.7	6.8	3.4	4.1	5.7
84.5°	3.2	9.2	12.3	11.6	10.3	10.7	9.7	5.8	2.8	3.5	4.8
85°	2.6	8.1	10.9	10.3	9.4	9.6	8.6	5.1	2.5	3.0	3.9
85.5°	1.9	7.0	9.6	9.2	8.3	8.6	7.7	4.5	2.0	2.5	3.1
86°	1.4	6.1	8.3	8.0	7.4	7.6	6.7	3.8	1.7	1.9	2.3
86.5°	1.1	5.1	7.0	6.8	6.3	6.5	5.7	3.2	1.4	1.5	1.5
87°	0.7	4.2	5.9	5.8	5.3	5.5	4.8	2.7	1.1	1.0	0.7
87.5°	0.5	3.2	4.7	4.7	4.5	4.6	3.8	2.0	0.6	0.5	0.2
88°	0.2	2.3	3.6	3.7	3.6	3.7	3.0	1.5	0.3	0.2	0.1
88.5°	0.1	1.5	2.8	2.9	2.8	2.8	2.1	0.9	0.1	0.1	0.0



TEST NUMBER: P775679

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.1	0.1	0.3	0.5	0.4	0.2	0.1	0.0	0.1	0.0



TEST NUMBER: P775679

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	577.6	577.6	577.6	577.6	577.6	577.6
0.5°	575.7	575.3	577.2	579.2	580.9	582.1
1°	573.4	574.3	577.7	581.2	583.9	585.8
1.5°	570.9	573.3	578.1	582.9	586.8	589.4
2°	568.4	571.9	578.3	584.6	589.7	592.8
2.5°	565.7	570.7	578.5	586.2	592.2	596.1
3°	563.0	569.3	578.5	587.5	594.8	599.2
3.5°	560.1	567.8	578.5	588.9	597.3	602.3
4°	557.3	566.2	578.3	590.1	599.5	605.2
4.5°	554.4	564.4	578.0	591.2	601.7	608.0
5°	551.2	562.6	577.6	592.1	603.8	610.8
5.5°	548.1	560.8	577.1	593.0	605.8	613.2
6°	544.9	558.8	576.6	593.6	607.5	615.7
6.5°	541.7	556.6	575.7	594.3	609.2	617.9
7°	538.3	554.5	575.0	594.7	610.6	620.1
7.5°	534.9	552.1	574.0	595.0	612.0	622.1
8°	531.4	549.8	572.8	595.2	613.1	623.9
8.5°	527.7	547.2	571.7	595.2	614.2	625.5
9°	524.1	544.8	570.4	595.2	615.2	627.1
9.5°	520.5	542.1	569.0	595.0	615.9	628.5
10°	516.7	539.5	567.5	594.6	616.6	629.8
10.5°	512.9	536.6	565.9	594.2	617.1	630.8
11°	509.0	533.8	564.1	593.5	617.4	631.7
11.5°	505.0	530.7	562.2	592.8	617.5	632.4
12°	501.1	527.7	560.3	591.8	617.5	633.0
12.5°	497.0	524.5	558.1	590.7	617.3	633.4
13°	493.1	521.3	556.0	589.6	617.0	633.6
13.5°	489.0	518.0	553.7	588.3	616.4	633.7
14°	484.8	514.8	551.4	586.9	615.8	633.5
14.5°	480.5	511.4	548.9	585.4	615.1	633.3
15°	476.3	508.0	546.5	583.7	614.1	632.9
15.5°	472.2	504.6	543.9	581.9	613.0	632.2
16°	467.9	501.3	541.4	580.1	611.9	631.6
16.5°	463.6	497.8	538.7	578.3	610.6	630.6
17°	459.6	494.4	536.2	576.2	609.2	629.7
17.5°	455.2	490.9	533.6	574.2	607.7	628.5
18°	450.8	487.4	531.0	572.5	606.1	627.3
18.5°	446.5	483.9	528.3	570.7	604.8	625.9
19°	442.2	480.3	525.7	568.8	603.7	624.8
19.5°	437.9	476.8	522.7	566.6	602.4	623.8
20°	433.7	472.9	519.6	564.4	600.8	622.7
20.5°	429.3	469.1	516.5	562.1	599.1	621.6
21°	424.8	465.0	513.1	559.4	597.1	620.2

TEST NUMBER: P775679

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	411.3	452.6	501.4	548.8	588.7	614.3
23°	406.6	448.2	497.0	544.5	584.9	611.0
23.5°	402.0	443.6	492.3	540.0	580.7	607.3
24°	397.3	438.8	487.5	535.2	576.2	603.3
24.5°	392.7	434.0	482.3	530.0	571.6	599.0
25°	387.9	429.1	477.3	524.7	566.4	593.9
25.5°	383.1	424.1	472.1	519.5	560.9	588.8
26°	378.2	419.0	466.6	514.0	555.3	583.7
26.5°	373.3	413.9	461.1	508.1	549.6	578.1
27°	368.5	408.8	455.5	502.3	543.4	572.1
27.5°	363.5	403.5	449.9	496.2	536.9	565.8
28°	358.5	398.1	444.1	489.8	530.4	559.8
28.5°	353.5	392.9	438.3	483.5	523.9	553.1
29°	348.5	387.4	432.3	477.1	517.2	546.4
29.5°	343.5	382.1	426.4	470.3	510.1	539.6
30°	338.3	376.5	420.5	463.6	503.3	532.7
30.5°	333.2	371.1	414.2	456.7	496.0	525.4
31°	328.1	365.5	408.1	449.9	488.8	518.1
31.5°	323.1	360.0	401.8	443.1	481.4	510.8
32°	318.1	354.2	395.4	435.8	474.1	503.3
32.5°	312.9	348.8	389.2	428.9	466.5	495.7
33°	307.8	343.0	382.8	421.8	459.3	488.3
33.5°	302.8	337.6	376.5	414.8	451.8	480.7
34°	297.9	331.8	369.9	407.8	444.3	473.0
34.5°	292.8	326.3	363.5	400.5	436.8	465.0
35°	287.7	320.5	357.0	393.5	429.3	457.3
35.5°	282.7	315.1	350.7	386.4	421.7	449.7
36°	277.8	309.7	344.2	379.4	414.5	442.0
36.5°	272.8	303.9	337.8	372.5	406.9	434.1
37°	267.9	298.3	331.5	365.4	399.6	426.1
37.5°	262.9	292.8	325.0	358.5	391.9	418.5
38°	258.1	287.3	318.7	351.6	384.5	410.8
38.5°	253.1	281.7	312.4	344.9	377.3	403.0
39°	248.5	276.2	306.1	338.0	369.8	395.1
39.5°	243.6	270.7	300.1	331.3	362.8	387.6
40°	238.6	265.3	293.7	324.5	355.4	379.9
40.5°	234.0	259.9	287.8	318.0	348.4	372.1
41°	229.3	254.4	281.7	311.3	340.9	364.6
41.5°	224.6	249.0	275.8	305.0	334.2	357.2
42°	219.9	243.8	269.8	298.6	327.4	349.9
42.5°	215.3	238.5	264.0	292.3	320.4	342.4
43°	210.6	233.3	258.3	285.9	313.4	335.3
43.5°	206.1	228.2	252.5	279.8	306.9	328.2



TEST NUMBER: P775679

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	192.6	212.9	235.9	261.8	287.1	307.2
45.5°	188.1	208.0	230.5	255.9	281.0	300.5
46°	183.8	203.1	225.2	250.1	274.8	293.7
46.5°	179.5	198.2	219.9	244.5	268.6	286.8
47°	175.0	193.5	214.8	238.9	262.2	280.6
47.5°	170.8	188.7	209.6	233.3	256.3	274.2
48°	166.7	184.0	204.6	227.8	250.6	267.6
48.5°	162.5	179.5	199.6	222.5	244.8	261.5
49°	158.5	175.0	194.7	217.3	239.0	255.6
49.5°	154.3	170.6	189.9	212.2	233.5	249.5
50°	150.2	166.1	185.2	206.9	227.9	243.4
50.5°	146.3	161.9	180.4	202.0	222.4	237.9
51°	142.4	157.6	175.9	197.0	217.0	232.1
51.5°	138.6	153.4	171.4	192.2	212.0	226.4
52°	134.8	149.4	167.0	187.5	206.8	221.1
52.5°	131.1	145.3	162.5	182.6	201.6	215.8
53°	127.3	141.3	158.4	178.0	196.7	210.3
53.5°	123.8	137.3	154.0	173.4	191.8	204.9
54°	120.3	133.5	149.8	168.9	186.9	200.2
54.5°	116.7	129.6	145.6	164.5	182.3	195.1
55°	113.2	125.9	141.7	160.2	177.7	190.0
55.5°	109.9	122.2	137.8	155.9	173.1	185.5
56°	106.6	118.6	133.8	151.7	168.5	180.7
56.5°	103.3	115.1	130.0	147.6	164.2	175.9
57°	100.1	111.5	126.3	143.5	159.8	171.4
57.5°	97.1	108.0	122.4	139.5	155.6	166.9
58°	94.1	104.8	118.8	135.6	151.5	162.1
58.5°	91.2	101.4	115.2	131.8	147.4	157.7
59°	88.4	98.2	111.6	128.1	143.3	153.1
59.5°	85.5	95.0	108.2	124.2	139.3	148.6
60°	82.6	91.8	104.8	120.5	135.2	144.5
60.5°	79.8	88.7	101.4	117.0	131.3	139.8
61°	77.1	85.7	98.2	113.5	127.3	135.7
61.5°	74.4	82.7	94.9	109.9	123.4	131.5
62°	72.0	79.9	91.8	106.5	119.5	127.4
62.5°	69.5	77.1	88.6	103.1	115.6	123.3
63°	67.0	74.3	85.6	99.8	111.9	119.1
63.5°	64.6	71.6	82.5	96.6	108.1	115.2
64°	62.4	68.9	79.7	93.4	104.5	111.1
64.5°	60.1	66.3	76.8	90.2	101.0	107.4
65°	58.0	63.8	74.0	87.2	97.4	103.5
65.5°	55.9	61.2	71.1	84.0	93.9	99.9
66°	53.7	58.9	68.5	81.0	90.4	96.1



TEST NUMBER: P775679

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	48.0	51.9	60.6	72.4	80.6	85.5
68°	46.2	49.8	58.1	69.6	77.4	82.0
68.5°	44.5	47.6	55.7	66.8	74.3	78.6
69°	42.8	45.5	53.3	64.1	71.2	75.4
69.5°	41.1	43.5	51.0	61.4	68.2	72.1
70°	39.6	41.6	48.7	58.9	65.2	68.9
70.5°	38.1	39.7	46.5	56.2	62.3	65.7
71°	36.7	38.4	44.4	53.7	59.4	62.6
71.5°	35.2	36.6	42.2	51.3	56.6	59.6
72°	33.8	34.8	40.2	48.8	54.0	56.7
72.5°	32.4	32.8	38.0	46.5	51.3	53.7
73°	31.1	31.0	36.1	44.1	48.6	50.9
73.5°	29.8	29.4	34.3	41.9	46.1	48.1
74°	28.5	27.8	32.5	39.7	43.6	45.3
74.5°	27.2	26.3	30.7	37.6	41.2	42.7
75°	25.8	24.7	29.0	35.5	38.9	40.1
75.5°	24.6	23.4	27.3	33.5	36.7	37.6
76°	23.4	22.0	25.6	31.4	34.5	35.2
76.5°	22.1	20.6	23.9	29.3	32.3	32.8
77°	20.8	19.3	22.4	27.4	30.2	30.4
77.5°	19.6	18.0	20.8	25.6	27.9	28.0
78°	18.4	16.8	19.4	23.8	26.0	25.8
78.5°	17.3	15.7	17.9	22.0	24.0	23.5
79°	16.1	14.5	16.5	20.4	22.1	21.3
79.5°	14.9	13.3	15.2	18.7	20.3	19.2
80°	13.8	12.3	13.9	17.1	18.4	17.2
80.5°	12.7	11.2	12.7	15.6	16.8	15.1
81°	11.6	10.1	11.5	14.1	15.2	13.2
81.5°	10.6	9.2	10.2	12.7	13.6	11.3
82°	9.5	8.2	9.2	11.3	12.2	9.4
82.5°	8.5	7.3	8.1	10.0	10.9	7.7
83°	7.5	6.3	7.0	8.9	9.5	6.0
83.5°	6.5	5.3	6.0	7.7	8.3	4.4
84°	5.4	4.5	5.0	6.5	7.3	3.8
84.5°	4.5	3.6	4.1	5.4	6.3	3.2
85°	3.5	2.9	3.2	4.4	5.3	2.6
85.5°	2.7	2.1	2.3	3.5	4.4	1.9
86°	1.8	1.4	1.6	2.7	3.5	1.4
86.5°	1.0	0.5	0.7	1.8	2.8	1.1
87°	0.3	0.1	0.2	1.0	1.9	0.7
87.5°	0.1	0.0	0.1	0.2	1.1	0.5
88°	0.0	0.0	0.0	0.0	0.2	0.2
88.5°	0.0	0.0	0.0	0.0	0.1	0.1



TEST NUMBER: P775679

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-HCD4TRLWW-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.1	0.0

Signify Classified - Internal
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°	618.6	622.4	605.2	569.4	519.6	466.8	420.9	388.9	374.0	373.0	388.3
22°	616.8	620.8	603.4	567.1	516.4	462.9	416.2	384.2	369.3	368.2	383.5



44°	321.0	332.1	329.9	314.4	288.1	250.1	216.9	196.8	186.0	182.7	187.2
44.5°	313.9	324.6	322.7	307.6	282.2	245.0	212.6	192.9	182.1	178.7	183.3



66.5°	92.6	98.1	98.1	90.0	80.0	68.9	63.4	61.8	57.2	56.1	54.8
67°	88.9	94.5	94.8	86.7	77.1	66.4	61.6	59.6	54.9	54.0	53.1



89°	0.0	0.6	1.9	2.0	1.9	1.9	1.3	0.4	0.0	0.1	0.0
89.5°	0.0	0.1	1.1	1.2	1.2	1.1	0.6	0.1	0.0	0.1	0.0

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21.5°	420.3	461.0	509.6	556.3	594.9	618.6
22°	415.9	456.9	505.7	552.9	592.0	616.8



44°	201.5	222.9	246.9	273.6	300.4	321.0
44.5°	197.1	217.9	241.3	267.8	293.9	313.9



66.5°	51.8	56.5	65.8	78.2	87.1	92.6
67°	49.9	54.2	63.1	75.2	83.8	88.9

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89°	0.0	0.0	0.0	0.0	0.1	0.0
89.5°	0.0	0.0	0.0	0.0	0.1	0.0

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(END OF REPORT)