

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: P775638

Luminaire Tested: HCDJBL510CSD-HCD41TRMW-1000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775638
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B030)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD41TRMW-1000lm-4000K
Description: 4 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1239.7 lumens
Efficiency: N/A
Efficacy: 124.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.22 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

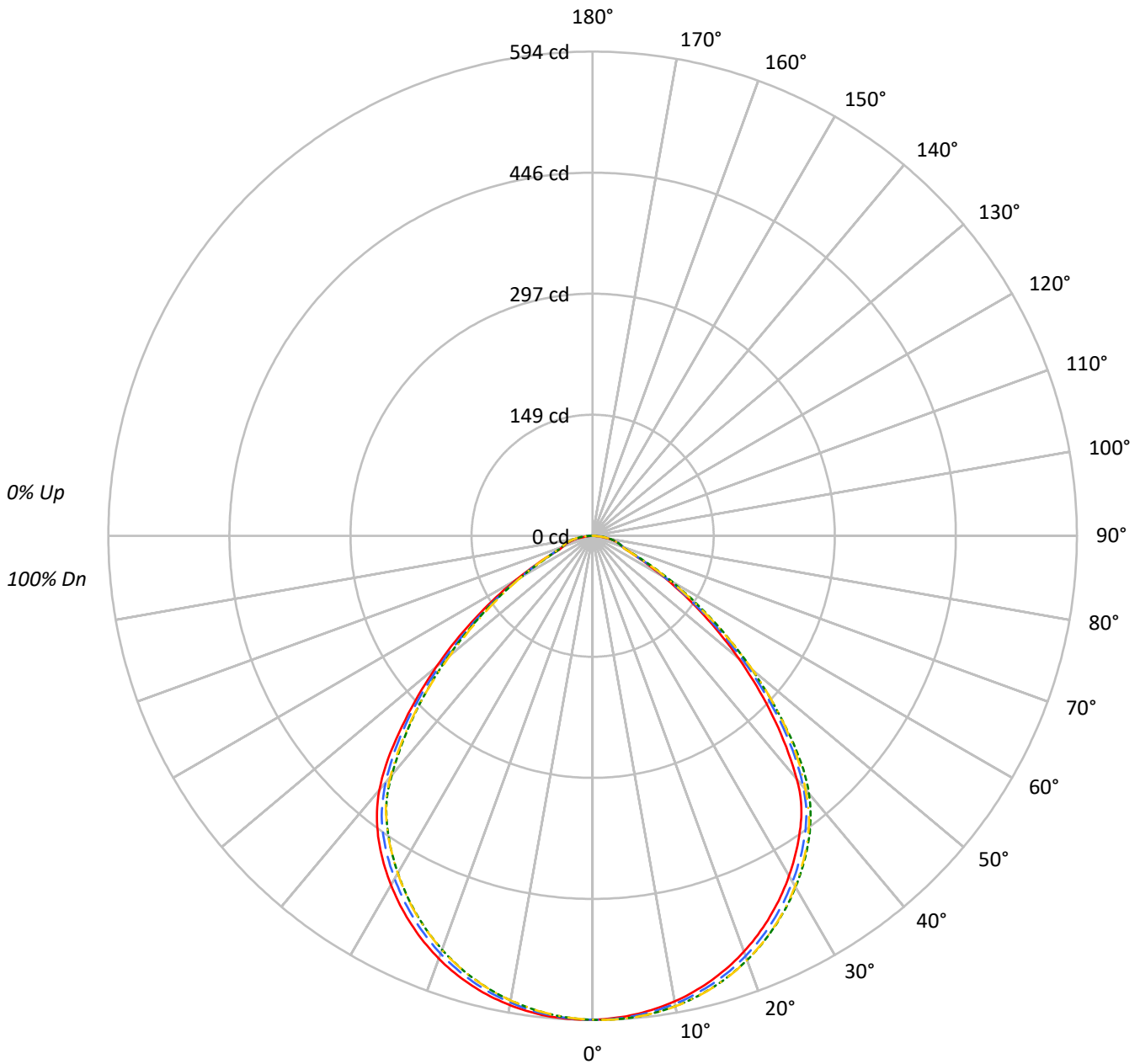
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
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			
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88					88			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	81	84	81	79	77					77			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67					67			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59					59			
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52					52			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47					47			
7	71	58	50	45	69	57	50	45	56	49	44	55	49	44	53	48	44	42					42			
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38					38			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34					34			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	43	37	33	31					31			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	74717	74717	74717	74717
5°	74497	74901	74800	74447
10°	74106	74873	74720	73978
15°	73548	74656	74447	73301
20°	72709	74195	73914	72347
25°	71527	73443	73054	71041
30°	70015	72325	71875	69419
35°	68075	70810	70226	67399
40°	63989	67833	66848	62938
45°	55547	60139	58857	54817
50°	45736	49985	48986	45344
55°	35325	39077	38309	35325
60°	25195	28065	27486	25321
65°	17123	18344	17867	17152
70°	14277	14203	14314	14571
75°	15025	15122	14490	15852
80°	13987	15582	12683	16741
85°	7797	14295	5487	16172

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°

Vertical Angle: 45°

Luminance: 61100 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.1	4.5
10°-20°	160.1	12.9
20°-30°	239.5	19.3
30°-40°	280.1	22.6
40°-50°	247.7	20.0
50°-60°	150.8	12.2
60°-70°	62.8	5.1
70°-80°	32.6	2.6
80°-90°	10.0	0.8
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°	455.8	36.8
0°-40°	735.9	59.4
0°-60°	1134.4	91.5
0°-90°	1239.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1239.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	594	594	594	594	594	
5°	590	593	592	589	590	56
15°	564	573	571	563	564	159
25°	515	529	526	512	515	237
35°	443	461	457	439	443	276
45°	312	338	331	308	312	240
55°	161	178	175	161	161	145
65°	58	62	60	58	58	61
75°	31	31	30	33	31	32
85°	5	10	4	11	5	8
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°	593.7	593.7	593.7	593.7	593.7	593.7	593.7	593.7	593.7	593.7	593.7
0.5°	593.6	593.7	593.8	593.6	594.0	594.1	593.9	593.8	593.8	593.8	593.7
1°	593.4	593.6	593.7	593.7	594.1	594.2	594.1	593.9	593.8	593.8	593.6
1.5°	593.1	593.4	593.6	593.7	594.1	594.3	594.1	593.9	593.8	593.7	593.4
2°	592.8	593.1	593.5	593.6	594.1	594.3	594.1	593.9	593.7	593.5	593.2
2.5°	592.3	592.8	593.3	593.5	594.0	594.3	594.1	593.8	593.6	593.3	592.9
3°	591.9	592.4	593.0	593.3	593.9	594.2	593.9	593.7	593.4	593.1	592.6
3.5°	591.5	592.0	592.7	593.1	593.7	594.1	593.8	593.5	593.2	592.7	592.1
4°	591.0	591.5	592.2	592.8	593.5	593.9	593.5	593.2	592.9	592.3	591.6
4.5°	590.3	591.0	591.7	592.3	593.2	593.6	593.3	592.9	592.4	591.9	591.1
5°	589.7	590.5	591.2	591.9	592.9	593.3	592.9	592.6	592.1	591.4	590.5
5.5°	589.0	589.7	590.7	591.5	592.3	593.0	592.4	592.0	591.6	590.8	589.8
6°	588.1	589.1	590.0	591.0	591.9	592.4	592.0	591.6	591.1	590.2	589.1
6.5°	587.3	588.2	589.4	590.3	591.4	592.0	591.5	591.1	590.6	589.6	588.4
7°	586.5	587.4	588.7	589.7	590.8	591.4	590.9	590.5	589.8	588.9	587.6
7.5°	585.5	586.6	587.8	589.0	590.1	590.9	590.2	589.8	589.1	588.0	586.7
8°	584.6	585.6	587.1	588.2	589.3	590.1	589.5	589.1	588.4	587.2	585.7
8.5°	583.5	584.7	586.0	587.4	588.6	589.5	588.8	588.2	587.5	586.4	584.8
9°	582.4	583.6	585.1	586.6	587.7	588.7	587.9	587.4	586.7	585.3	583.7
9.5°	581.2	582.5	584.1	585.5	586.9	587.8	587.1	586.6	585.7	584.4	582.6
10°	579.9	581.3	583.0	584.6	585.9	586.9	586.1	585.6	584.7	583.3	581.4
10.5°	578.7	580.2	581.8	583.4	584.9	585.9	585.1	584.6	583.6	582.2	580.3
11°	577.3	578.8	580.7	582.4	583.8	584.9	584.0	583.4	582.6	580.9	578.9
11.5°	576.0	577.5	579.4	581.2	582.7	583.8	582.9	582.4	581.3	579.6	577.5
12°	574.5	576.1	578.1	579.8	581.5	582.7	581.7	581.2	580.2	578.4	576.2
12.5°	572.9	574.6	576.7	578.6	580.3	581.5	580.5	579.8	578.9	577.0	574.7
13°	571.4	573.1	575.2	577.2	578.9	580.3	579.1	578.6	577.5	575.5	573.2
13.5°	569.6	571.5	573.6	575.8	577.5	578.9	577.7	577.2	576.1	574.1	571.6
14°	568.1	570.0	572.2	574.4	576.1	577.5	576.4	575.7	574.6	572.5	570.0
14.5°	566.3	568.3	570.5	572.8	574.6	576.1	574.8	574.2	573.0	570.9	568.3
15°	564.5	566.5	568.9	571.2	573.0	574.6	573.3	572.7	571.4	569.2	566.5
15.5°	562.6	564.6	567.1	569.4	571.4	572.9	571.6	571.0	569.8	567.5	564.7
16°	560.6	562.7	565.2	567.8	569.8	571.3	569.9	569.3	568.0	565.7	562.8
16.5°	558.6	560.8	563.4	566.0	568.0	569.5	568.2	567.5	566.3	563.9	560.8
17°	556.6	558.8	561.6	564.1	566.2	567.8	566.4	565.7	564.3	562.0	558.8
17.5°	554.5	556.7	559.6	562.3	564.3	566.0	564.4	563.8	562.4	559.9	556.7
18°	552.3	554.6	557.5	560.3	562.4	564.0	562.5	561.9	560.5	557.9	554.6
18.5°	550.0	552.4	555.4	558.2	560.4	562.0	560.5	559.9	558.4	555.8	552.4
19°	547.7	550.2	553.1	556.1	558.3	560.0	558.4	557.8	556.4	553.7	550.2
19.5°	545.3	547.9	550.9	554.0	556.2	557.9	556.2	555.7	554.2	551.4	547.9
20°	542.9	545.5	548.6	551.8	554.0	555.8	554.0	553.4	551.9	549.2	545.5
20.5°	540.4	543.1	546.3	549.5	551.8	553.5	551.7	551.0	549.6	546.7	543.0
21°	537.7	540.5	543.8	547.2	549.5	551.3	549.4	548.7	547.3	544.3	540.5



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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°	529.7	532.7	536.2	539.7	542.2	544.0	541.9	541.4	539.8	536.8	532.7
23°	526.9	529.9	533.5	537.2	539.7	541.5	539.3	538.8	537.2	534.1	529.8
23.5°	524.0	527.1	530.8	534.4	537.1	538.9	536.7	536.0	534.5	531.3	527.1
24°	521.1	524.3	528.0	531.8	534.3	536.2	533.9	533.3	531.8	528.6	524.3
24.5°	518.2	521.3	525.2	529.0	531.6	533.5	531.2	530.6	529.0	525.7	521.3
25°	515.1	518.3	522.3	526.1	528.9	530.7	528.2	527.7	526.1	522.9	518.4
25.5°	512.1	515.3	519.3	523.3	526.0	527.8	525.4	524.8	523.3	519.9	515.3
26°	508.8	512.3	516.3	520.4	523.1	525.0	522.5	521.8	520.4	516.9	512.2
26.5°	505.8	509.1	513.2	517.4	520.0	522.0	519.4	518.8	517.2	514.0	509.1
27°	502.5	505.9	510.1	514.3	517.1	519.1	516.3	515.7	514.2	510.8	506.0
27.5°	499.1	502.7	507.0	511.2	514.0	515.9	513.2	512.6	511.1	507.5	502.7
28°	495.8	499.3	503.7	508.1	510.8	512.8	510.0	509.4	507.9	504.5	499.3
28.5°	492.3	496.0	500.4	504.8	507.8	509.6	506.7	506.2	504.6	501.0	496.0
29°	488.9	492.5	497.0	501.6	504.4	506.4	503.3	502.9	501.3	497.9	492.6
29.5°	485.4	489.2	493.7	498.2	501.1	503.1	500.0	499.6	498.0	494.4	489.3
30°	481.8	485.7	490.2	494.8	497.7	499.8	496.6	496.1	494.6	491.0	485.7
30.5°	478.1	482.1	486.7	491.5	494.3	496.3	493.1	492.6	491.2	487.5	482.1
31°	474.4	478.4	483.3	487.9	490.8	492.9	489.6	489.0	487.6	484.0	478.5
31.5°	470.8	474.9	479.6	484.4	487.3	489.4	486.0	485.5	484.0	480.4	475.1
32°	467.1	471.2	475.9	480.9	483.7	485.8	482.3	481.9	480.4	477.0	471.3
32.5°	463.2	467.4	472.3	477.2	480.2	482.2	478.6	478.2	476.8	473.3	467.5
33°	459.4	463.6	468.6	473.5	476.4	478.5	474.9	474.4	473.1	469.5	463.7
33.5°	455.5	459.7	464.8	469.8	472.7	474.8	471.1	470.6	469.2	465.6	459.8
34°	451.4	455.8	460.8	465.9	468.9	471.0	467.0	466.6	465.2	461.6	455.8
34.5°	447.4	451.7	456.9	461.9	465.0	466.9	463.1	462.6	461.2	457.7	451.8
35°	443.1	447.6	452.8	457.9	460.9	462.9	458.9	458.5	457.1	453.6	447.8
35.5°	438.9	443.4	448.6	453.8	456.8	458.8	454.8	454.3	453.0	449.4	443.5
36°	434.6	439.1	444.4	449.6	452.7	454.7	450.4	449.7	448.6	445.0	439.1
36.5°	430.1	434.7	440.0	445.4	448.3	450.3	445.8	445.2	444.0	440.5	434.6
37°	425.5	430.1	435.4	440.7	443.7	445.6	441.1	440.6	439.3	435.9	430.0
37.5°	420.5	425.4	430.7	436.2	439.0	441.0	436.1	435.8	434.6	431.0	424.6
38°	415.4	420.3	426.0	431.4	434.2	436.3	430.6	430.5	429.7	425.9	419.1
38.5°	409.6	414.5	420.3	426.4	429.3	431.1	424.7	424.6	424.3	420.6	413.4
39°	403.5	408.2	414.2	421.0	424.0	425.7	418.6	418.7	418.7	415.0	407.2
39.5°	396.8	401.8	408.2	415.4	418.5	419.9	412.5	412.5	413.0	409.0	401.1
40°	389.5	395.0	401.9	409.2	412.9	413.7	406.1	405.9	406.9	402.7	394.5
40.5°	382.1	387.8	395.2	403.0	406.8	407.3	399.7	399.4	400.4	396.1	388.3
41°	374.5	380.5	388.5	396.3	400.4	400.8	393.3	392.9	393.4	389.3	381.2
41.5°	366.9	373.1	381.4	389.4	393.4	394.2	386.6	386.0	386.3	382.4	374.4
42°	359.0	365.5	374.4	382.4	386.3	387.3	379.9	379.2	378.9	375.2	367.3
42.5°	351.3	357.8	367.2	375.2	378.7	380.3	372.8	372.1	371.3	367.8	360.0
43°	343.5	350.2	359.8	367.8	370.9	373.0	365.8	364.8	363.4	360.2	352.4
43.5°	335.7	342.6	351.9	360.2	362.7	365.9	358.6	357.5	355.2	352.4	345.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	312.1	319.6	328.4	336.3	337.9	343.3	336.2	334.7	330.7	328.1	321.7
45.5°	304.2	311.8	320.3	328.0	329.4	335.2	328.7	326.8	322.4	319.7	313.8
46°	296.4	304.0	312.1	319.4	320.8	327.3	320.7	318.6	314.2	311.3	305.5
46.5°	288.6	296.1	303.9	310.9	312.5	319.2	312.8	310.6	306.0	302.8	297.3
47°	280.5	288.3	295.7	302.3	304.3	310.9	304.9	302.6	298.0	294.4	289.2
47.5°	272.6	280.4	287.2	293.8	296.0	302.6	297.2	294.3	290.0	286.2	281.1
48°	264.7	272.3	279.1	285.2	287.8	294.3	289.0	286.1	281.9	277.7	272.7
48.5°	256.8	264.4	270.7	276.6	279.7	286.0	281.1	277.8	273.9	269.5	264.7
49°	249.0	256.4	262.5	268.2	271.5	277.8	272.7	269.7	266.1	261.2	256.4
49.5°	241.3	248.2	254.3	259.7	263.3	269.4	264.4	261.5	258.1	253.1	248.3
50°	233.6	240.3	246.0	251.2	255.3	261.2	256.3	253.4	250.2	244.9	240.2
50.5°	225.9	232.2	237.8	242.8	247.4	253.0	247.8	245.4	242.2	237.1	232.1
51°	218.3	224.3	229.7	234.6	239.3	244.7	239.8	237.5	234.5	229.3	224.2
51.5°	210.9	216.7	221.7	226.5	231.4	237.0	231.4	229.5	226.9	221.4	216.5
52°	203.4	208.9	213.7	218.6	223.6	228.9	223.0	221.5	219.4	213.5	208.7
52.5°	196.2	201.2	205.9	210.7	215.7	220.8	215.0	213.7	211.6	206.0	200.8
53°	188.9	193.7	197.9	202.9	208.1	212.8	206.9	206.1	204.0	198.3	193.2
53.5°	181.8	186.2	190.2	195.2	200.3	205.1	199.0	198.3	196.4	191.0	185.8
54°	174.8	178.8	182.4	187.8	192.9	197.3	190.8	190.7	189.4	183.6	178.6
54.5°	167.8	171.4	175.1	180.3	185.6	189.8	183.2	183.4	182.0	176.4	171.5
55°	161.0	164.3	167.8	173.2	178.1	182.4	175.5	176.0	174.6	169.3	164.2
55.5°	154.4	157.4	160.5	166.0	170.9	175.0	167.9	168.8	167.5	162.5	157.3
56°	147.8	150.6	153.3	159.2	163.7	167.4	160.6	161.4	160.8	155.5	150.7
56.5°	141.3	143.8	146.6	152.4	156.8	160.2	153.3	154.5	153.7	148.9	144.1
57°	135.0	137.2	139.9	145.7	149.8	153.3	146.3	147.5	146.9	142.5	137.7
57.5°	128.8	130.7	133.2	139.1	143.1	146.3	139.4	140.8	140.3	136.2	131.2
58°	122.7	124.4	126.7	132.9	136.4	139.3	132.8	134.2	134.0	130.0	125.3
58.5°	116.9	118.3	120.6	126.6	130.2	132.7	126.3	127.5	127.5	124.0	119.4
59°	111.2	112.4	114.9	120.8	123.7	126.2	120.0	121.1	121.2	118.1	113.5
59.5°	105.6	106.7	109.1	114.7	117.5	119.8	113.8	115.0	115.1	112.3	108.0
60°	100.1	101.1	103.6	109.1	111.5	113.5	107.8	108.9	109.2	106.8	102.7
60.5°	95.0	95.7	98.3	103.5	105.7	107.5	102.2	102.9	103.4	101.4	97.4
61°	89.8	90.6	93.1	98.1	100.0	101.8	97.1	97.3	97.8	96.5	92.8
61.5°	85.0	85.7	88.3	92.8	94.9	96.6	91.8	92.2	92.7	91.5	88.3
62°	80.4	81.1	83.5	87.8	89.7	91.2	86.7	86.9	87.5	86.6	83.6
62.5°	76.0	76.6	79.0	82.9	84.7	86.0	81.5	81.6	82.4	81.6	79.0
63°	71.8	72.3	74.7	78.2	79.5	80.6	76.4	76.5	77.3	76.7	74.4
63.5°	67.9	68.3	70.6	73.7	74.4	75.3	71.7	71.9	72.8	72.3	70.3
64°	64.1	64.6	66.7	69.2	70.0	70.7	67.4	67.4	68.4	68.2	66.4
64.5°	60.5	61.1	63.0	65.3	65.7	66.4	63.4	63.4	64.2	64.2	62.8
65°	57.5	57.8	59.6	61.5	61.6	62.3	59.5	59.6	60.0	60.5	59.5
65.5°	54.5	54.9	56.4	57.9	57.8	58.4	55.9	56.0	56.0	57.2	56.3
66°	51.7	52.1	53.5	54.5	54.2	55.0	52.6	52.8	52.2	53.8	53.4



TEST NUMBER: P775638

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	44.9	45.4	46.0	46.3	45.7	46.4	44.7	45.1	43.9	45.9	46.2
68°	43.1	43.6	44.0	44.2	43.6	44.2	42.8	43.2	42.1	44.0	44.3
68.5°	41.4	42.1	42.3	42.3	41.8	42.3	41.3	41.6	41.1	42.3	42.7
69°	40.2	40.9	40.8	40.8	40.5	40.9	40.1	40.4	40.4	41.1	41.3
69.5°	39.5	39.7	39.6	39.5	39.3	39.6	39.3	39.5	39.6	40.0	40.4
70°	38.8	38.8	38.8	38.7	38.6	38.9	38.7	38.8	38.9	39.3	39.6
70.5°	38.0	38.1	38.4	38.0	37.9	38.2	38.0	38.0	38.1	38.6	39.0
71°	37.3	37.4	37.6	37.3	37.2	37.5	37.3	37.2	37.3	37.8	38.4
71.5°	36.7	36.7	37.0	36.7	36.6	36.9	36.6	36.5	36.6	37.0	37.6
72°	35.9	35.9	36.3	36.0	35.8	36.1	35.8	35.6	35.6	36.1	36.9
72.5°	35.3	35.3	35.5	35.4	35.1	35.4	35.1	34.8	34.8	35.3	36.1
73°	34.5	34.5	34.8	34.7	34.4	34.7	34.3	33.8	33.8	34.5	35.3
73.5°	33.6	33.6	34.0	33.8	33.6	33.8	33.4	32.9	32.9	33.5	34.5
74°	32.7	32.8	33.2	33.1	32.8	33.1	32.6	31.9	31.9	32.6	33.6
74.5°	31.7	31.8	32.4	32.4	31.9	32.3	31.7	31.0	30.9	31.6	32.8
75°	30.9	30.9	31.5	31.5	31.1	31.4	30.8	29.9	29.8	30.6	31.8
75.5°	29.8	29.9	30.7	30.7	30.3	30.6	29.8	28.9	28.8	29.5	30.9
76°	28.8	28.9	29.7	29.8	29.4	29.7	28.9	27.8	27.6	28.5	29.9
76.5°	27.8	28.0	28.8	28.9	28.5	28.8	27.8	26.8	26.6	27.3	29.0
77°	26.7	26.9	27.8	28.1	27.5	27.8	26.9	25.6	25.3	26.2	28.1
77.5°	25.5	25.7	26.9	27.1	26.6	26.9	25.9	24.5	24.1	24.9	26.9
78°	24.4	24.7	25.9	26.2	25.6	26.0	24.7	23.2	22.8	23.7	25.9
78.5°	23.2	23.5	24.8	25.2	24.6	24.9	23.6	22.0	21.5	22.5	24.7
79°	22.0	22.3	23.7	24.2	23.6	23.9	22.5	20.7	20.3	21.2	23.6
79.5°	20.7	21.1	22.7	23.1	22.6	22.9	21.3	19.4	18.9	19.9	22.5
80°	19.3	19.8	21.5	22.1	21.5	21.8	20.2	18.2	17.5	18.5	21.2
80.5°	18.1	18.5	20.4	21.0	20.4	20.7	19.0	16.8	16.2	17.2	20.1
81°	16.8	17.2	19.2	20.0	19.3	19.5	17.9	15.4	14.7	15.8	18.8
81.5°	15.3	15.9	18.1	18.8	18.2	18.4	16.6	14.1	13.3	14.4	17.5
82°	14.0	14.5	16.8	17.7	17.0	17.3	15.4	12.7	11.9	13.0	16.4
82.5°	12.6	13.1	15.7	16.5	15.9	16.1	14.3	11.5	10.5	11.6	15.1
83°	11.1	11.8	14.5	15.3	14.7	14.9	13.1	10.3	9.0	10.4	14.0
83.5°	9.7	10.4	13.3	14.2	13.6	13.8	12.0	9.1	7.7	9.2	12.7
84°	8.2	9.0	12.2	13.0	12.4	12.6	10.8	8.0	6.2	8.1	11.7
84.5°	6.7	7.8	11.0	11.8	11.1	11.3	9.7	6.9	4.7	6.8	10.5
85°	5.4	6.7	10.0	10.6	9.9	10.1	8.5	5.8	3.8	5.7	9.4
85.5°	4.1	5.9	8.8	9.4	8.6	8.8	7.3	4.9	3.3	5.0	8.3
86°	3.6	5.1	7.7	8.1	7.4	7.6	6.1	4.2	2.8	4.3	7.1
86.5°	3.0	4.3	6.4	6.8	6.1	6.3	4.9	3.5	2.3	3.7	6.0
87°	2.5	3.6	5.3	5.5	4.8	4.9	3.8	2.6	1.9	2.9	4.8
87.5°	1.9	2.8	4.0	4.2	3.6	3.7	2.5	1.9	1.4	2.3	3.7
88°	1.4	2.1	3.0	3.2	2.3	2.5	1.5	1.2	0.8	1.6	2.5
88.5°	0.9	1.4	2.1	2.1	1.3	1.4	0.5	0.5	0.5	0.9	1.5



TEST NUMBER: P775638

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMW-1000lm-4000K

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	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0



TEST NUMBER: P775638

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	593.7	593.7	593.7	593.7	593.7	593.7
0.5°	593.4	593.7	593.7	593.6	593.5	593.6
1°	593.2	593.5	593.3	593.4	593.3	593.4
1.5°	593.0	593.2	593.0	593.0	593.0	593.1
2°	592.6	592.8	592.6	592.7	592.6	592.8
2.5°	592.2	592.3	592.1	592.2	592.1	592.3
3°	591.8	591.8	591.5	591.7	591.6	591.9
3.5°	591.3	591.3	591.0	591.2	591.2	591.5
4°	590.8	590.8	590.2	590.6	590.6	591.0
4.5°	590.1	590.0	589.6	589.9	589.9	590.3
5°	589.4	589.3	588.9	589.2	589.2	589.7
5.5°	588.7	588.6	588.0	588.4	588.5	589.0
6°	587.9	587.7	587.1	587.6	587.6	588.1
6.5°	587.1	586.9	586.1	586.7	586.8	587.3
7°	586.2	585.9	585.2	585.7	585.8	586.5
7.5°	585.2	584.9	584.1	584.7	584.8	585.5
8°	584.3	583.8	583.0	583.6	583.8	584.6
8.5°	583.1	582.6	581.9	582.6	582.7	583.5
9°	582.0	581.4	580.7	581.4	581.6	582.4
9.5°	580.8	580.2	579.4	580.2	580.4	581.2
10°	579.5	578.9	578.1	578.8	579.1	579.9
10.5°	578.3	577.5	576.6	577.5	577.8	578.7
11°	576.8	576.2	575.1	576.1	576.5	577.3
11.5°	575.4	574.7	573.6	574.6	575.0	576.0
12°	574.0	573.1	572.1	573.1	573.4	574.5
12.5°	572.4	571.4	570.4	571.5	572.0	572.9
13°	570.8	569.9	568.7	569.9	570.3	571.4
13.5°	569.0	568.1	567.0	568.2	568.6	569.6
14°	567.3	566.4	565.2	566.5	566.8	568.1
14.5°	565.5	564.5	563.3	564.6	565.0	566.3
15°	563.7	562.6	561.3	562.8	563.2	564.5
15.5°	561.8	560.7	559.5	560.8	561.2	562.6
16°	559.8	558.6	557.4	558.8	559.2	560.6
16.5°	557.8	556.6	555.2	556.7	557.2	558.6
17°	555.7	554.4	553.0	554.6	555.1	556.6
17.5°	553.5	552.2	550.8	552.4	552.9	554.5
18°	551.3	549.9	548.4	550.2	550.7	552.3
18.5°	548.9	547.6	546.1	547.9	548.4	550.0
19°	546.6	545.2	543.7	545.5	546.0	547.7
19.5°	544.2	542.7	541.2	543.1	543.6	545.3
20°	541.8	540.2	538.6	540.5	541.2	542.9
20.5°	539.2	537.6	535.9	537.9	538.8	540.4
21°	536.5	534.9	533.2	535.4	536.1	537.7

TEST NUMBER: P775638

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	528.5	526.7	524.8	527.1	527.9	529.7
23°	525.6	523.8	521.8	524.3	525.1	526.9
23.5°	522.8	521.0	518.9	521.3	522.1	524.0
24°	519.8	517.8	515.8	518.3	519.1	521.1
24.5°	516.8	514.8	512.8	515.3	516.2	518.2
25°	513.7	511.6	509.6	512.2	513.1	515.1
25.5°	510.6	508.5	506.3	509.0	510.0	512.1
26°	507.4	505.2	503.1	505.9	506.8	508.8
26.5°	504.2	502.1	499.9	502.5	503.5	505.8
27°	500.9	498.7	496.4	499.2	500.3	502.5
27.5°	497.7	495.4	493.0	495.9	496.9	499.1
28°	494.3	491.8	489.6	492.4	493.5	495.8
28.5°	490.8	488.4	486.0	488.8	490.1	492.3
29°	487.4	485.0	482.5	485.3	486.5	488.9
29.5°	483.8	481.4	478.8	481.8	483.0	485.4
30°	480.3	477.7	475.3	478.1	479.4	481.8
30.5°	476.6	474.0	471.5	474.4	475.7	478.1
31°	473.1	470.3	467.8	470.9	472.0	474.4
31.5°	469.4	466.7	463.8	467.0	468.2	470.8
32°	465.6	462.8	460.2	463.2	464.5	467.1
32.5°	461.8	459.0	456.3	459.3	460.7	463.2
33°	457.9	455.1	452.4	455.4	456.8	459.4
33.5°	454.1	451.1	448.3	451.5	452.9	455.5
34°	450.0	447.1	444.2	447.4	448.8	451.4
34.5°	445.9	442.9	440.1	443.3	444.7	447.4
35°	441.8	438.7	435.8	439.0	440.5	443.1
35.5°	437.5	434.4	431.4	434.7	436.2	438.9
36°	433.0	430.0	426.9	430.5	431.9	434.6
36.5°	428.5	425.5	422.4	425.9	427.3	430.1
37°	423.8	420.7	417.7	421.3	422.6	425.5
37.5°	418.4	415.7	412.7	416.5	417.9	420.5
38°	412.4	410.1	406.9	411.6	412.8	415.4
38.5°	406.3	404.1	400.6	405.8	406.7	409.6
39°	399.9	397.6	394.4	399.4	400.6	403.5
39.5°	393.3	390.5	387.6	392.8	394.1	396.8
40°	386.5	383.1	380.4	385.9	387.2	389.5
40.5°	379.6	375.8	373.1	378.7	379.9	382.1
41°	372.4	368.3	365.6	371.5	372.5	374.5
41.5°	365.1	360.6	357.9	364.2	364.8	366.9
42°	357.6	353.3	350.2	356.6	357.1	359.0
42.5°	350.1	345.9	342.2	349.1	349.2	351.3
43°	342.6	338.5	334.4	341.4	341.4	343.5
43.5°	335.1	330.8	326.3	333.5	333.3	335.7



TEST NUMBER: P775638

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	312.4	308.0	302.6	309.4	309.0	312.1
45.5°	304.8	300.3	294.8	301.2	300.8	304.2
46°	297.3	292.9	287.0	293.0	292.8	296.4
46.5°	289.7	285.0	279.1	285.0	284.7	288.6
47°	281.8	277.2	271.4	276.6	276.6	280.5
47.5°	274.3	269.5	263.5	268.4	268.6	272.6
48°	266.6	261.9	255.9	260.0	260.7	264.7
48.5°	258.8	254.1	248.0	252.1	252.8	256.8
49°	250.9	246.6	240.6	243.8	245.0	249.0
49.5°	243.2	239.2	233.2	235.9	237.3	241.3
50°	235.4	231.6	225.5	227.8	229.6	233.6
50.5°	227.7	224.1	218.0	220.1	221.9	225.9
51°	220.1	217.0	210.7	212.4	214.3	218.3
51.5°	212.5	209.6	203.4	204.9	206.7	210.9
52°	204.9	202.5	196.2	197.4	199.3	203.4
52.5°	197.4	195.3	188.9	190.4	192.1	196.2
53°	190.1	188.3	181.9	183.2	184.9	188.9
53.5°	182.8	181.4	175.1	176.1	177.8	181.8
54°	175.6	174.3	168.1	169.4	170.8	174.8
54.5°	168.6	167.6	161.5	162.8	163.9	167.8
55°	161.6	161.0	155.0	156.2	157.4	161.0
55.5°	154.8	154.4	148.6	150.0	150.9	154.4
56°	148.1	147.7	142.2	143.8	144.4	147.8
56.5°	141.5	141.4	136.1	137.8	138.2	141.3
57°	135.0	135.1	130.1	131.9	132.2	135.0
57.5°	128.7	129.0	124.2	126.1	126.3	128.8
58°	122.7	123.1	118.6	120.7	120.5	122.7
58.5°	116.7	117.3	113.2	115.4	115.2	116.9
59°	111.0	111.5	107.8	110.1	109.7	111.2
59.5°	105.3	105.9	102.8	105.1	104.7	105.6
60°	99.9	100.6	97.7	100.4	99.6	100.1
60.5°	95.2	95.3	92.9	95.6	94.9	95.0
61°	90.4	90.3	88.3	91.1	90.2	89.8
61.5°	85.5	85.4	84.0	86.7	85.7	85.0
62°	80.8	80.7	79.8	82.6	81.4	80.4
62.5°	76.0	76.3	75.7	78.6	77.3	76.0
63°	71.9	72.1	71.8	74.7	73.3	71.8
63.5°	68.1	68.0	68.1	71.0	69.7	67.9
64°	64.3	64.2	64.6	67.5	66.1	64.1
64.5°	60.8	60.7	61.4	64.1	62.7	60.5
65°	57.7	57.6	58.2	60.8	59.4	57.5
65.5°	54.7	54.7	55.3	57.9	56.6	54.5
66°	52.0	52.1	52.6	55.1	53.8	51.7



TEST NUMBER: P775638

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	45.6	46.0	45.9	47.7	46.8	44.9
68°	44.0	44.3	44.2	45.7	44.8	43.1
68.5°	42.6	42.9	42.7	43.9	43.1	41.4
69°	41.3	41.6	41.3	42.2	41.6	40.2
69.5°	40.2	40.5	40.1	40.9	40.4	39.5
70°	39.6	39.6	39.3	39.8	39.4	38.8
70.5°	39.0	39.0	38.7	39.1	38.6	38.0
71°	38.2	38.2	38.0	38.5	37.8	37.3
71.5°	37.6	37.6	37.4	37.7	37.2	36.7
72°	36.9	36.9	36.7	37.1	36.5	35.9
72.5°	36.1	36.3	35.9	36.4	35.7	35.3
73°	35.4	35.6	35.3	35.7	35.0	34.5
73.5°	34.7	34.9	34.6	35.1	34.2	33.6
74°	33.9	34.2	33.9	34.3	33.3	32.7
74.5°	33.1	33.4	33.1	33.4	32.4	31.7
75°	32.3	32.6	32.3	32.7	31.5	30.9
75.5°	31.4	31.7	31.4	31.7	30.5	29.8
76°	30.6	30.9	30.6	30.9	29.5	28.8
76.5°	29.6	29.9	29.7	29.9	28.5	27.8
77°	28.7	29.1	28.8	29.0	27.4	26.7
77.5°	27.7	28.2	28.0	28.1	26.4	25.5
78°	26.8	27.2	27.0	27.1	25.2	24.4
78.5°	25.7	26.3	26.0	26.1	24.1	23.2
79°	24.7	25.2	25.0	25.0	22.9	22.0
79.5°	23.6	24.2	24.0	23.9	21.6	20.7
80°	22.6	23.1	22.8	22.8	20.4	19.3
80.5°	21.4	22.0	21.8	21.6	19.1	18.1
81°	20.4	20.9	20.7	20.5	17.9	16.8
81.5°	19.2	19.8	19.5	19.3	16.5	15.3
82°	18.0	18.6	18.4	18.1	15.1	14.0
82.5°	16.8	17.4	17.2	16.9	13.8	12.6
83°	15.7	16.2	16.0	15.8	12.5	11.1
83.5°	14.4	15.0	14.8	14.6	11.1	9.7
84°	13.1	13.8	13.7	13.3	9.8	8.2
84.5°	11.9	12.5	12.4	12.2	8.5	6.7
85°	10.6	11.2	11.1	11.1	7.4	5.4
85.5°	9.4	10.0	9.9	10.0	6.4	4.1
86°	8.0	8.7	8.6	8.8	5.6	3.6
86.5°	6.7	7.4	7.3	7.7	4.8	3.0
87°	5.5	6.1	6.0	6.4	4.0	2.5
87.5°	4.1	4.7	4.6	5.3	3.3	1.9
88°	2.8	3.5	3.4	4.0	2.5	1.4
88.5°	1.7	2.6	2.5	3.0	1.8	0.9



TEST NUMBER: P775638

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.1	0.1	0.1	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°	535.2	537.9	541.4	544.7	547.2	548.8	546.9	546.3	544.7	541.8	537.9
22°	532.4	535.4	538.9	542.2	544.6	546.4	544.4	543.9	542.3	539.3	535.3



44°	327.9	335.0	344.2	352.4	354.5	358.4	351.4	350.1	347.1	344.5	337.3
44.5°	319.9	327.2	336.4	344.4	346.2	350.9	343.7	342.4	338.9	336.5	329.5



66.5°	49.2	49.6	50.8	51.6	51.0	51.8	49.6	49.9	49.1	50.9	50.8
67°	47.0	47.3	48.2	48.8	48.1	49.0	47.0	47.3	46.2	48.2	48.3



89°	0.5	0.6	1.1	1.2	0.2	0.3	0.0	0.1	0.1	0.3	0.6
89.5°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0

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21.5°	533.9	532.2	530.5	532.7	533.4	535.2
22°	531.3	529.5	527.7	529.9	530.7	532.4



44°	327.4	323.1	318.4	325.5	325.1	327.9
44.5°	320.0	315.6	310.4	317.5	317.0	319.9



66.5°	49.7	49.9	50.2	52.4	51.2	49.2
67°	47.5	47.7	47.9	50.0	48.9	47.0



89°	0.7	1.8	1.7	2.1	1.1	0.5
89.5°	0.0	0.9	0.9	1.2	0.4	0.1

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Scaled Data Report



(END OF REPORT)