

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: P775731

Luminaire Tested: HCDJBL510CSD-HCD61TRMB-1000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775731
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B038)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD61TRMB-1000lm-3000K
Description: 6 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1042.1 lumens
Efficiency: N/A
Efficacy: 104.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.24 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

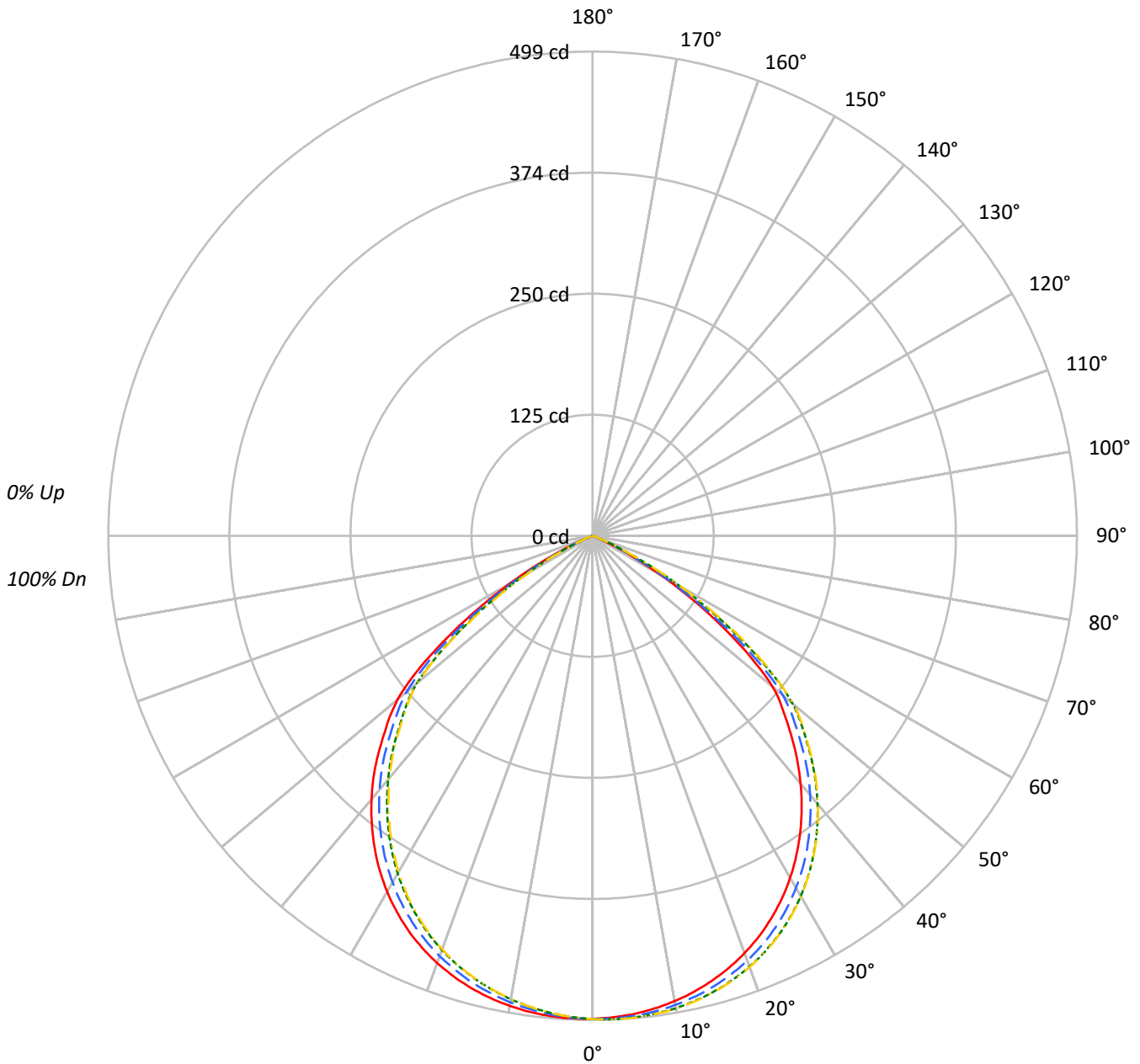
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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								
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90								
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79								
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	71	69								
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61								
5	82	71	64	58	81	70	63	58	68	62	57	66	61	56	65	60	56	54								
6	77	65	57	51	75	64	57	51	62	56	51	61	55	50	59	54	50	48								
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43								
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39								
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35								
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	27300	27300	27300	27300
5°	27218	27416	27344	27168
10°	27104	27521	27382	26998
15°	26947	27577	27389	26788
20°	26701	27565	27332	26497
25°	26330	27443	27159	26058
30°	25763	27150	26808	25434
35°	24949	26615	26227	24567
40°	23859	25805	25362	23451
45°	22390	24553	24057	21971
50°	20630	22916	22345	20153
55°	15598	18073	17481	15120
60°	9034	11304	10865	8859
65°	2776	4294	3930	3009
70°	48	80	48	48
75°	21	42	21	21
80°	32	32	0	32
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
 Vertical Angle: 45°
 Luminance: 24638 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.1	4.5
10°-20°	135.1	13.0
20°-30°	203.5	19.5
30°-40°	238.7	22.9
40°-50°	231.2	22.2
50°-60°	153.8	14.8
60°-70°	32.4	3.1
70°-80°	0.2	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°	385.8	37.0
0°-40°	624.5	59.9
0°-60°	1009.5	96.9
0°-90°	1042.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1042.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	498	498	498	498	498	
5°	495	498	497	494	495	47
15°	475	486	483	472	475	134
25°	435	454	449	431	435	200
35°	373	398	392	367	373	233
45°	289	317	310	283	289	223
55°	163	189	183	158	163	145
65°	21	33	30	23	21	27
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	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°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0
0.5°	497.7	497.7	498.0	498.3	498.2	498.3	498.3	498.2	497.9	497.8	497.9
1°	497.5	497.7	498.0	498.5	498.5	498.6	498.6	498.3	498.0	497.7	497.7
1.5°	497.3	497.5	498.0	498.3	498.6	498.7	498.7	498.5	498.0	497.7	497.6
2°	497.0	497.3	497.9	498.3	498.7	498.9	498.9	498.5	498.0	497.5	497.4
2.5°	496.7	497.1	497.7	498.3	498.7	498.9	498.9	498.5	497.9	497.4	497.1
3°	496.3	496.9	497.6	498.2	498.7	498.9	498.9	498.5	497.8	497.2	496.8
3.5°	496.0	496.6	497.4	498.1	498.6	498.9	498.9	498.5	497.6	496.9	496.4
4°	495.5	496.2	497.2	497.9	498.6	498.8	498.8	498.2	497.4	496.7	496.1
4.5°	495.1	495.9	496.9	497.7	498.3	498.7	498.7	498.1	497.2	496.4	495.7
5°	494.6	495.5	496.5	497.5	498.2	498.6	498.5	497.9	496.9	496.0	495.2
5.5°	494.1	495.0	496.2	497.3	498.0	498.3	498.2	497.6	496.6	495.6	494.7
6°	493.3	494.5	495.9	497.0	497.7	498.1	498.0	497.3	496.3	495.1	494.1
6.5°	492.7	494.0	495.4	496.6	497.5	497.8	497.7	497.0	495.9	494.7	493.5
7°	492.0	493.3	494.9	496.2	497.1	497.5	497.4	496.6	495.5	494.1	492.8
7.5°	491.3	492.7	494.4	495.8	496.8	497.2	497.1	496.2	494.9	493.6	492.2
8°	490.6	492.1	493.8	495.3	496.4	496.8	496.7	495.8	494.5	492.9	491.5
8.5°	489.7	491.4	493.1	494.8	495.9	496.4	496.3	495.3	493.9	492.2	490.7
9°	488.9	490.6	492.4	494.2	495.5	495.9	495.8	494.8	493.2	491.6	490.0
9.5°	487.9	489.8	491.7	493.6	494.9	495.4	495.3	494.2	492.6	490.8	489.1
10°	486.9	489.0	491.0	492.8	494.4	494.8	494.7	493.7	491.9	490.0	488.2
10.5°	486.0	488.0	490.2	492.1	493.7	494.2	494.1	492.9	491.2	489.2	487.3
11°	484.9	487.1	489.4	491.4	493.0	493.6	493.3	492.2	490.5	488.3	486.3
11.5°	483.9	486.1	488.5	490.5	492.3	492.8	492.6	491.4	489.6	487.4	485.4
12°	482.6	485.1	487.5	489.7	491.5	492.1	491.9	490.7	488.8	486.5	484.3
12.5°	481.5	484.0	486.5	488.8	490.7	491.3	491.1	489.9	487.9	485.5	483.2
13°	480.2	482.8	485.5	487.8	489.8	490.5	490.2	489.0	486.9	484.5	482.0
13.5°	479.0	481.6	484.5	486.8	489.0	489.6	489.4	488.0	485.9	483.3	480.8
14°	477.6	480.4	483.2	485.8	487.9	488.7	488.3	487.0	484.9	482.2	479.6
14.5°	476.2	479.2	482.1	484.8	486.9	487.6	487.3	486.0	483.8	481.0	478.4
15°	474.8	477.7	480.9	483.6	485.9	486.6	486.3	484.9	482.6	479.8	477.0
15.5°	473.2	476.4	479.7	482.4	484.8	485.5	485.3	483.9	481.4	478.6	475.7
16°	471.8	475.0	478.4	481.2	483.7	484.4	484.1	482.6	480.2	477.2	474.2
16.5°	470.2	473.5	476.9	480.0	482.4	483.1	482.8	481.4	479.0	475.8	472.6
17°	468.6	471.9	475.5	478.6	481.2	481.9	481.6	480.1	477.6	474.4	471.1
17.5°	466.9	470.4	474.1	477.1	479.9	480.7	480.4	478.9	476.2	472.8	469.5
18°	465.2	468.9	472.5	475.7	478.5	479.3	479.0	477.3	474.8	471.3	467.8
18.5°	463.4	467.1	471.0	474.3	477.1	477.8	477.5	475.9	473.2	469.8	466.2
19°	461.5	465.3	469.3	472.7	475.6	476.4	476.1	474.4	471.7	468.1	464.5
19.5°	459.7	463.6	467.6	471.1	474.2	475.0	474.6	472.8	470.1	466.5	462.7
20°	457.7	461.8	465.9	469.5	472.5	473.4	473.0	471.3	468.5	464.8	461.0
20.5°	455.7	459.9	464.1	467.8	470.9	471.7	471.4	469.6	466.8	462.9	459.0
21°	453.8	457.8	462.3	466.1	469.2	470.1	469.7	467.9	465.1	461.1	457.1



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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°	447.2	451.8	456.4	460.4	463.9	464.7	464.3	462.4	459.4	455.3	450.9
23°	445.0	449.7	454.4	458.5	461.9	462.8	462.3	460.5	457.4	453.1	448.7
23.5°	442.6	447.4	452.3	456.4	460.0	460.9	460.5	458.6	455.5	451.0	446.5
24°	440.3	445.2	450.1	454.4	457.9	458.9	458.4	456.4	453.4	448.9	444.3
24.5°	437.7	442.7	447.8	452.1	455.9	456.8	456.3	454.4	451.2	446.6	441.9
25°	435.3	440.3	445.5	449.9	453.7	454.6	454.1	452.2	449.0	444.4	439.5
25.5°	432.7	437.9	443.1	447.6	451.5	452.4	451.9	450.0	446.7	441.9	437.0
26°	430.2	435.4	440.8	445.3	449.3	450.1	449.7	447.6	444.4	439.5	434.6
26.5°	427.4	432.8	438.2	442.9	446.9	447.8	447.3	445.3	442.0	437.0	431.9
27°	424.8	430.2	435.7	440.5	444.5	445.5	444.9	442.9	439.5	434.5	429.4
27.5°	421.9	427.4	433.0	437.9	442.1	443.0	442.5	440.5	437.0	431.9	426.7
28°	419.1	424.7	430.4	435.3	439.6	440.4	440.0	437.9	434.4	429.2	424.0
28.5°	416.1	421.9	427.7	432.7	436.9	437.9	437.4	435.4	431.7	426.5	421.2
29°	413.1	419.0	424.9	430.1	434.3	435.2	434.8	432.7	429.2	423.8	418.4
29.5°	410.2	416.1	422.0	427.3	431.7	432.5	432.0	430.0	426.3	421.0	415.4
30°	407.0	413.0	419.2	424.5	428.9	429.8	429.3	427.2	423.5	417.9	412.4
30.5°	403.9	410.1	416.2	421.5	426.0	426.9	426.5	424.5	420.6	415.0	409.5
31°	400.7	406.9	413.1	418.6	423.1	424.0	423.6	421.5	417.6	412.0	406.3
31.5°	397.3	403.8	410.1	415.6	420.2	421.0	420.5	418.6	414.6	409.0	403.3
32°	394.1	400.5	406.9	412.6	417.1	418.0	417.5	415.5	411.5	405.8	400.0
32.5°	390.6	397.2	403.7	409.4	414.1	414.9	414.6	412.5	408.5	402.6	396.7
33°	387.2	393.9	400.5	406.2	411.0	411.8	411.4	409.3	405.3	399.4	393.5
33.5°	383.8	390.5	397.1	402.9	407.7	408.6	408.1	406.0	402.0	396.1	390.1
34°	380.2	387.0	393.8	399.7	404.5	405.4	404.9	402.8	398.7	392.7	386.6
34.5°	376.5	383.6	390.3	396.2	401.1	402.0	401.6	399.5	395.3	389.3	383.1
35°	372.8	380.0	386.7	392.8	397.7	398.6	398.1	396.1	391.9	385.7	379.6
35.5°	369.2	376.3	383.3	389.3	394.3	395.2	394.7	392.6	388.4	382.2	376.0
36°	365.3	372.5	379.6	385.8	390.8	391.6	391.2	389.2	384.8	378.8	372.3
36.5°	361.6	368.9	375.9	382.1	387.2	388.1	387.7	385.6	381.2	375.1	368.7
37°	357.6	365.1	372.1	378.4	383.7	384.5	384.1	382.0	377.5	371.3	364.9
37.5°	353.7	361.2	368.4	374.7	379.9	380.8	380.3	378.4	373.8	367.6	361.2
38°	349.6	357.3	364.5	370.8	376.2	377.0	376.6	374.5	370.1	363.7	357.3
38.5°	345.7	353.4	360.7	366.9	372.4	373.3	372.9	370.7	366.2	360.0	353.4
39°	341.7	349.5	356.7	363.2	368.6	369.4	369.1	366.9	362.2	356.0	349.5
39.5°	337.5	345.4	352.6	359.1	364.6	365.5	365.1	362.9	358.4	352.0	345.4
40°	333.4	341.2	348.7	355.0	360.6	361.5	361.1	359.1	354.4	347.9	341.4
40.5°	329.2	337.1	344.5	350.9	356.5	357.5	357.1	354.9	350.3	344.0	337.3
41°	324.9	332.8	340.3	346.6	352.4	353.5	353.0	350.8	346.2	339.8	333.2
41.5°	320.5	328.6	336.0	342.5	348.2	349.3	349.0	346.6	341.9	335.6	329.0
42°	316.2	324.2	331.7	338.2	344.0	345.1	344.7	342.4	337.7	331.3	324.7
42.5°	311.8	320.0	327.3	333.8	339.7	340.8	340.5	338.0	333.4	327.1	320.4
43°	307.2	315.5	322.8	329.3	335.3	336.3	336.1	333.7	329.0	322.5	316.0
43.5°	302.7	310.8	318.4	324.7	330.7	331.9	331.6	329.2	324.5	318.0	311.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	288.8	296.8	304.2	310.5	316.7	317.8	317.7	315.1	310.3	304.0	297.4
45.5°	284.1	292.0	299.5	305.7	311.9	313.3	313.0	310.3	305.5	299.2	292.6
46°	279.5	287.4	294.8	301.0	307.2	308.7	308.4	305.7	300.8	294.4	288.1
46.5°	275.0	282.9	290.2	296.4	302.6	304.3	304.0	301.1	296.0	289.8	283.4
47°	270.6	278.5	285.7	291.8	298.1	299.7	299.5	296.5	291.4	285.1	278.8
47.5°	266.2	274.1	281.2	287.3	293.6	295.2	295.0	292.0	286.9	280.6	274.4
48°	261.8	269.6	276.6	282.7	289.1	290.8	290.6	287.6	282.4	276.1	270.0
48.5°	257.5	265.1	272.2	278.3	284.6	286.6	286.2	283.2	277.8	271.7	265.6
49°	252.8	260.3	267.1	273.2	279.6	281.6	281.3	278.3	272.9	266.7	260.6
49.5°	247.7	255.2	261.8	267.6	274.3	276.2	275.9	272.8	267.5	261.3	255.4
50°	241.9	249.6	256.0	261.5	268.7	270.6	270.4	267.2	262.0	255.8	249.7
50.5°	235.5	242.6	249.6	255.3	262.4	264.2	263.7	260.9	255.9	249.4	243.3
51°	228.5	235.5	242.4	248.4	255.6	257.2	256.8	254.3	249.2	242.4	236.2
51.5°	220.9	228.0	234.8	241.0	248.4	249.9	249.7	246.8	242.1	235.3	228.8
52°	212.8	220.2	226.9	233.1	240.5	242.4	242.2	239.3	234.4	227.6	221.3
52.5°	205.0	212.2	218.8	224.4	232.4	234.9	234.7	231.4	226.1	219.7	213.6
53°	196.8	203.9	210.3	215.6	224.1	226.7	226.7	223.4	217.6	211.5	205.6
53.5°	188.6	195.5	201.7	206.7	215.4	218.8	218.9	214.9	208.9	203.2	197.4
54°	180.1	187.0	192.7	197.6	206.6	210.5	210.6	206.4	200.2	194.7	189.0
54.5°	171.7	178.6	183.8	188.6	197.7	202.0	202.2	197.6	191.3	185.7	180.7
55°	163.2	169.9	174.7	179.4	189.1	193.8	194.0	189.0	182.9	177.1	172.3
55.5°	154.6	161.0	165.6	170.3	180.2	184.8	185.3	180.0	174.0	168.2	163.7
56°	146.2	152.4	156.4	161.0	171.1	176.0	176.5	171.3	165.4	159.2	155.3
56.5°	137.9	143.8	147.3	152.4	162.2	167.1	167.6	162.4	156.4	150.4	146.7
57°	129.3	135.1	138.3	143.5	153.5	158.3	158.9	153.9	148.1	141.5	138.3
57.5°	121.1	126.4	129.5	134.7	144.8	149.3	150.0	145.2	139.4	133.1	129.8
58°	113.1	118.0	120.7	126.2	136.1	140.4	141.1	136.6	131.1	124.4	121.4
58.5°	105.2	109.5	112.0	117.9	127.6	131.6	132.3	128.3	123.0	116.1	113.3
59°	97.4	101.2	103.9	109.7	119.3	122.9	123.6	120.1	114.8	108.0	105.3
59.5°	89.7	92.9	95.8	101.6	111.1	114.4	114.7	111.8	106.6	100.1	97.5
60°	82.4	85.0	88.2	93.7	103.1	106.0	106.1	103.8	99.1	92.8	89.9
60.5°	75.1	77.2	80.4	85.9	95.5	98.1	98.3	96.1	91.5	85.4	82.2
61°	68.0	69.8	73.1	78.5	88.0	90.2	90.3	88.5	84.1	78.1	74.7
61.5°	61.0	62.7	66.1	71.3	80.4	82.2	82.3	80.8	76.5	70.7	67.0
62°	54.4	55.9	59.2	64.3	72.9	74.4	74.4	73.2	69.0	64.0	60.4
62.5°	48.1	49.5	52.8	57.5	65.3	66.5	66.4	65.5	62.0	57.3	53.8
63°	42.0	43.3	46.4	51.3	58.2	59.2	59.1	58.4	55.4	51.1	47.5
63.5°	36.1	37.5	40.6	45.1	51.4	52.3	52.2	51.6	49.1	45.1	41.7
64°	31.2	33.0	35.0	39.3	45.0	45.7	45.7	45.1	42.7	39.4	36.3
64.5°	26.3	28.5	30.5	34.2	38.9	39.5	39.4	38.8	36.4	34.1	31.1
65°	21.4	23.9	25.9	29.4	33.1	33.6	33.6	33.0	30.3	28.9	26.4
65.5°	16.6	19.4	21.3	24.5	27.4	28.2	28.2	27.3	24.5	24.1	22.0
66°	11.7	14.8	16.8	19.7	22.3	23.0	23.0	22.1	19.1	19.6	18.0



TEST NUMBER: P775731

CATALOG NUMBER: HCDJBL510CSD-HCD61TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	3.8	6.3	7.3	8.1	11.6	12.0	12.0	11.4	8.6	10.3	9.5
68°	2.9	4.4	5.1	5.4	8.6	8.9	8.9	8.5	5.1	7.8	6.6
68.5°	2.0	3.6	3.2	3.4	5.5	5.7	5.7	5.4	1.6	5.1	3.9
69°	1.1	2.8	2.4	2.6	2.6	2.7	2.6	2.6	0.5	2.4	2.2
69.5°	0.3	1.9	1.7	1.8	1.2	1.2	1.2	1.2	0.3	1.2	1.1
70°	0.3	1.1	1.0	1.0	0.5	0.5	0.5	0.5	0.3	0.5	0.5
70.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
71°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
71.5°	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2
72°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
72.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
73°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
73.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
74°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
74.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
75°	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1
75.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
77°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
77.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
78°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1	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	0.0	0.1	0.1
80.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
81°	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775731

CATALOG NUMBER: HCDJBL510CSD-HCD61TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P775731

CATALOG NUMBER: HCDJBL510CSD-HCD61TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	498.0	498.0	498.0	498.0	498.0	498.0
0.5°	497.9	497.8	497.8	497.9	497.8	497.7
1°	497.7	497.5	497.5	497.6	497.6	497.5
1.5°	497.5	497.2	497.1	497.3	497.3	497.3
2°	497.2	496.8	496.7	496.9	496.9	497.0
2.5°	496.9	496.3	496.3	496.4	496.5	496.7
3°	496.5	495.9	495.8	496.0	496.1	496.3
3.5°	496.1	495.4	495.3	495.5	495.7	496.0
4°	495.6	494.9	494.7	494.9	495.2	495.5
4.5°	495.1	494.3	494.1	494.3	494.6	495.1
5°	494.6	493.7	493.5	493.7	494.0	494.6
5.5°	494.0	492.9	492.7	492.9	493.3	494.1
6°	493.3	492.2	492.0	492.2	492.6	493.3
6.5°	492.6	491.5	491.2	491.4	492.0	492.7
7°	491.9	490.7	490.4	490.7	491.2	492.0
7.5°	491.2	489.8	489.6	489.8	490.4	491.3
8°	490.4	489.0	488.6	488.9	489.6	490.6
8.5°	489.5	488.0	487.6	487.9	488.7	489.7
9°	488.7	487.0	486.6	486.9	487.6	488.9
9.5°	487.6	486.1	485.7	485.9	486.7	487.9
10°	486.7	485.0	484.6	484.9	485.7	486.9
10.5°	485.7	483.9	483.5	483.8	484.6	486.0
11°	484.7	482.7	482.2	482.6	483.5	484.9
11.5°	483.6	481.6	481.0	481.3	482.3	483.9
12°	482.4	480.3	479.8	480.1	481.1	482.6
12.5°	481.2	479.1	478.5	478.8	479.9	481.5
13°	480.0	477.7	477.1	477.4	478.6	480.2
13.5°	478.7	476.4	475.7	476.0	477.1	479.0
14°	477.4	475.0	474.3	474.6	475.8	477.6
14.5°	476.0	473.5	472.8	473.1	474.3	476.2
15°	474.6	472.0	471.2	471.6	472.8	474.8
15.5°	473.1	470.4	469.6	470.0	471.2	473.2
16°	471.5	468.9	467.9	468.4	469.7	471.8
16.5°	470.1	467.1	466.3	466.7	468.0	470.2
17°	468.5	465.4	464.6	464.9	466.3	468.6
17.5°	466.7	463.7	462.7	463.1	464.6	466.9
18°	465.1	461.8	460.9	461.3	462.7	465.2
18.5°	463.2	460.0	459.0	459.4	460.9	463.4
19°	461.4	458.1	457.0	457.4	459.0	461.5
19.5°	459.6	456.2	455.0	455.4	457.1	459.7
20°	457.6	454.2	452.9	453.4	455.1	457.7
20.5°	455.7	452.0	450.8	451.2	452.9	455.7
21°	453.7	449.9	448.7	449.0	450.8	453.8



TEST NUMBER: P775731

CATALOG NUMBER: HCDJBL510CSD-HCD61TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	447.1	443.1	441.7	442.1	444.1	447.2
23°	445.0	440.8	439.3	439.7	441.7	445.0
23.5°	442.6	438.5	436.9	437.2	439.4	442.6
24°	440.3	436.0	434.4	434.7	436.8	440.3
24.5°	437.8	433.4	431.8	432.1	434.3	437.7
25°	435.4	430.8	429.2	429.5	431.7	435.3
25.5°	432.8	428.2	426.4	426.8	429.1	432.7
26°	430.3	425.5	423.7	424.1	426.4	430.2
26.5°	427.5	422.6	420.8	421.2	423.6	427.4
27°	424.8	419.8	418.0	418.4	420.8	424.8
27.5°	422.1	417.0	415.2	415.4	417.9	421.9
28°	419.3	414.1	412.1	412.4	415.0	419.1
28.5°	416.3	411.0	409.1	409.4	411.9	416.1
29°	413.5	408.0	406.0	406.4	409.0	413.1
29.5°	410.5	404.9	402.8	403.1	405.9	410.2
30°	407.3	401.8	399.7	400.0	402.6	407.0
30.5°	404.3	398.6	396.3	396.6	399.5	403.9
31°	401.1	395.2	393.0	393.4	396.1	400.7
31.5°	397.8	391.9	389.6	389.9	392.7	397.3
32°	394.5	388.6	386.2	386.5	389.4	394.1
32.5°	391.2	385.1	382.7	382.9	386.0	390.6
33°	387.7	381.6	379.2	379.5	382.4	387.2
33.5°	384.4	378.1	375.6	376.0	378.9	383.8
34°	380.8	374.6	372.0	372.2	375.3	380.2
34.5°	377.3	370.8	368.3	368.6	371.6	376.5
35°	373.6	367.1	364.5	364.9	367.8	372.8
35.5°	370.0	363.4	360.8	361.1	364.1	369.2
36°	366.3	359.7	357.0	357.3	360.4	365.3
36.5°	362.6	355.8	353.3	353.5	356.6	361.6
37°	358.8	351.9	349.4	349.6	352.6	357.6
37.5°	354.9	348.0	345.3	345.7	348.8	353.7
38°	351.0	344.1	341.4	341.7	344.7	349.6
38.5°	346.9	340.1	337.4	337.7	340.7	345.7
39°	343.0	336.0	333.5	333.7	336.7	341.7
39.5°	339.0	332.0	329.4	329.7	332.6	337.5
40°	334.9	327.7	325.3	325.5	328.4	333.4
40.5°	330.8	323.7	321.1	321.4	324.2	329.2
41°	326.5	319.4	316.9	317.2	320.0	324.9
41.5°	322.3	315.1	312.5	312.9	315.7	320.5
42°	318.0	310.8	308.4	308.7	311.4	316.2
42.5°	313.8	306.4	304.1	304.3	307.0	311.8
43°	309.4	301.9	299.5	299.9	302.4	307.2
43.5°	304.8	297.3	295.0	295.3	297.8	302.7



TEST NUMBER: P775731

CATALOG NUMBER: HCDJBL510CSD-HCD61TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	290.9	283.4	281.2	281.4	283.9	288.8
45.5°	286.2	278.8	276.5	276.8	279.2	284.1
46°	281.6	274.2	271.9	272.2	274.7	279.5
46.5°	276.9	269.8	267.5	267.7	270.2	275.0
47°	272.5	265.4	263.3	263.5	265.7	270.6
47.5°	268.2	261.0	258.9	259.2	261.3	266.2
48°	263.9	256.7	254.5	254.9	257.0	261.8
48.5°	259.5	252.3	250.2	250.4	252.6	257.5
49°	254.8	247.5	245.4	245.7	248.1	252.8
49.5°	249.7	242.3	240.4	240.7	243.0	247.7
50°	244.1	236.3	234.5	235.1	237.4	241.9
50.5°	237.4	229.6	228.0	228.7	230.8	235.5
51°	230.4	222.3	220.8	221.4	223.9	228.5
51.5°	223.0	215.0	213.3	213.8	216.5	220.9
52°	215.5	207.1	205.4	205.9	208.6	212.8
52.5°	207.6	199.2	197.4	197.7	200.3	205.0
53°	199.8	190.9	189.0	189.3	192.0	196.8
53.5°	191.6	182.9	180.5	180.9	183.7	188.6
54°	183.8	174.7	172.0	172.3	175.1	180.1
54.5°	175.4	166.4	163.8	163.9	166.7	171.7
55°	167.3	158.2	155.2	155.3	158.2	163.2
55.5°	158.9	150.2	146.8	146.6	149.7	154.6
56°	150.8	142.1	138.5	138.0	141.4	146.2
56.5°	142.4	134.2	130.3	129.7	133.3	137.9
57°	134.3	126.0	122.1	121.3	125.0	129.3
57.5°	126.2	118.3	114.1	113.3	116.9	121.1
58°	118.3	110.5	106.3	105.5	109.1	113.1
58.5°	110.3	103.0	98.7	97.6	101.1	105.2
59°	102.4	95.4	91.2	90.2	93.8	97.4
59.5°	95.0	88.0	84.1	83.0	86.4	89.7
60°	87.4	80.8	76.8	76.0	79.2	82.4
60.5°	80.0	73.8	70.1	69.3	72.2	75.1
61°	72.5	66.8	63.6	62.9	65.5	68.0
61.5°	65.7	60.4	57.4	56.7	59.0	61.0
62°	59.0	54.0	51.5	51.1	52.8	54.4
62.5°	52.4	47.8	45.9	45.5	46.7	48.1
63°	46.1	42.0	40.6	40.3	40.9	42.0
63.5°	40.2	36.5	35.4	35.2	35.5	36.1
64°	34.6	32.0	31.2	31.0	31.1	31.2
64.5°	29.4	27.6	27.0	26.9	26.7	26.3
65°	24.6	23.2	22.9	22.8	22.3	21.4
65.5°	20.2	18.7	18.7	18.7	18.0	16.6
66°	16.0	14.3	15.1	15.3	14.3	11.7



TEST NUMBER: P775731

CATALOG NUMBER: HCDJBL510CSD-HCD61TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	8.4	5.9	6.7	6.9	6.0	3.8
68°	5.8	4.1	4.7	4.8	4.2	2.9
68.5°	3.4	3.2	3.0	3.1	3.2	2.0
69°	2.0	2.2	2.2	2.3	2.2	1.1
69.5°	1.0	1.2	1.6	1.6	1.2	0.3
70°	0.5	0.3	0.9	0.9	0.3	0.3
70.5°	0.3	0.3	0.3	0.3	0.3	0.3
71°	0.2	0.2	0.2	0.2	0.2	0.2
71.5°	0.2	0.2	0.2	0.2	0.2	0.2
72°	0.2	0.2	0.2	0.2	0.2	0.2
72.5°	0.2	0.2	0.2	0.2	0.2	0.2
73°	0.2	0.2	0.2	0.2	0.2	0.2
73.5°	0.2	0.2	0.2	0.2	0.2	0.2
74°	0.2	0.2	0.2	0.2	0.2	0.2
74.5°	0.2	0.1	0.1	0.1	0.1	0.1
75°	0.1	0.1	0.1	0.1	0.1	0.1
75.5°	0.1	0.1	0.1	0.1	0.1	0.1
76°	0.1	0.1	0.1	0.1	0.1	0.1
76.5°	0.1	0.1	0.1	0.1	0.1	0.1
77°	0.1	0.1	0.1	0.1	0.1	0.1
77.5°	0.1	0.1	0.1	0.1	0.1	0.1
78°	0.1	0.1	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.1	0.1	0.1	0.1
79.5°	0.1	0.1	0.1	0.1	0.1	0.1
80°	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.1	0.1	0.1	0.1	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775731

CATALOG NUMBER: HCDJBL510CSD-HCD61TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

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

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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°	451.5	455.9	460.4	464.3	467.5	468.4	467.9	466.2	463.2	459.2	455.1
22°	449.5	453.9	458.5	462.4	465.7	466.6	466.1	464.3	461.4	457.2	453.0



44°	298.1	306.1	313.5	320.1	326.0	327.2	327.0	324.5	319.7	313.5	306.8
44.5°	293.4	301.5	308.9	315.3	321.4	322.8	322.2	319.9	315.0	308.8	302.1



66.5°	8.5	11.5	13.3	14.9	17.8	18.4	18.4	17.4	15.6	15.6	15.1
67°	5.8	8.7	10.1	11.2	14.7	15.2	15.2	14.4	12.1	13.0	12.3



89°	0.0	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	0.0

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21.5°	451.5	447.7	446.4	446.7	448.7	451.5
22°	449.4	445.5	444.2	444.5	446.4	449.5



44°	300.2	292.6	290.4	290.6	293.3	298.1
44.5°	295.6	288.1	285.8	286.0	288.6	293.4



66.5°	13.5	10.9	12.0	12.0	11.1	8.5
67°	10.9	8.2	9.2	9.3	8.4	5.8

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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)