

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P775662

Luminaire Tested: HCDJBL510CSD-HCD42TRMW-1000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775662
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156A001)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD42TRMW-1000lm-3500K
Description: 4 INCH ROUND NARROW MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

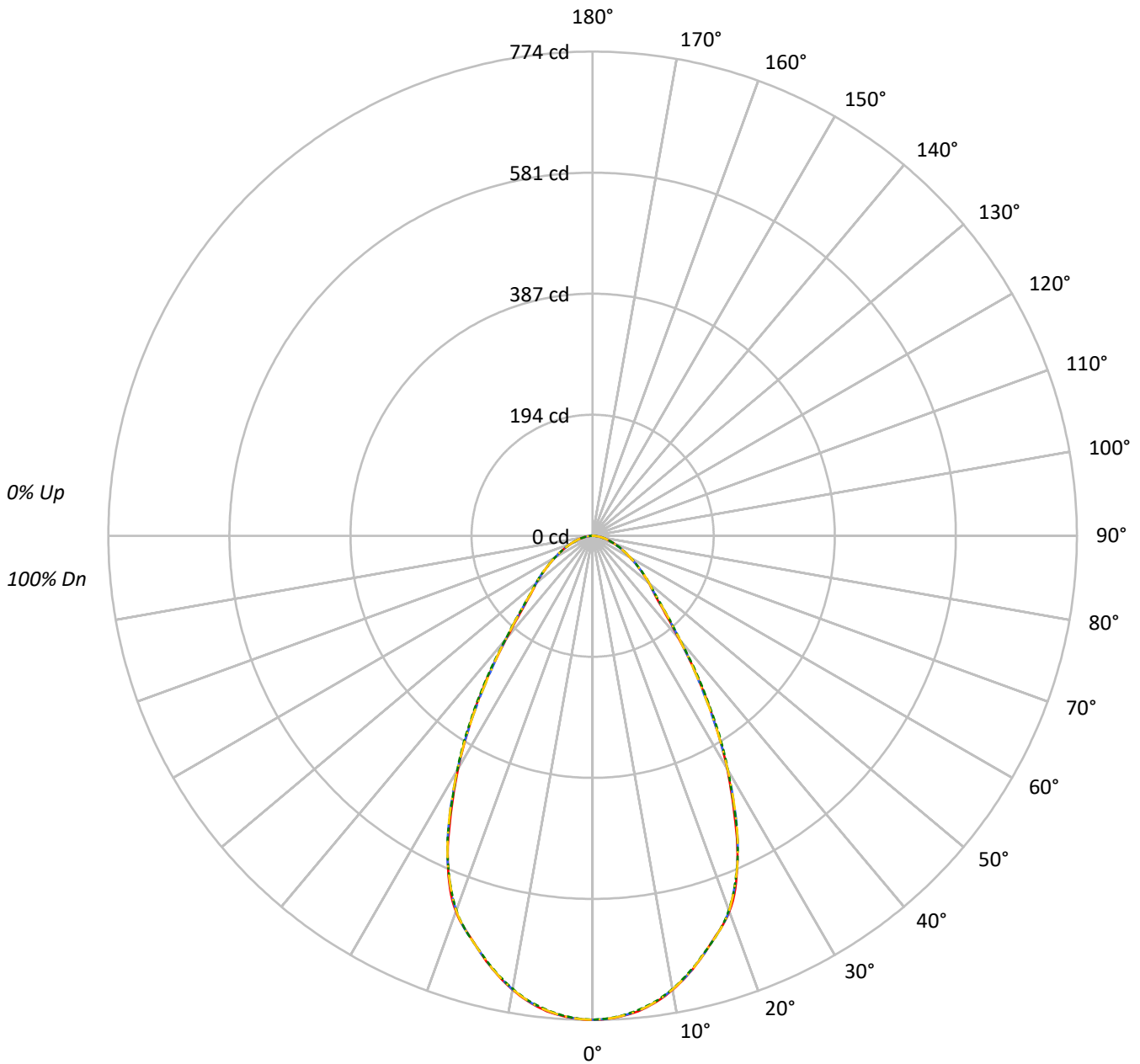
Lumens per Lamp: N/A
Luminaire Lumens: 999.0 lumens
Efficiency: N/A
Efficacy: 99.9 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.97 / 0.95
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	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	94	93	91	89								
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80								
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71								
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64								
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58								
6	80	69	62	57	78	68	61	56	67	60	56	65	60	55	64	59	55	53								
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49								
8	71	60	52	48	70	59	52	47	58	52	47	57	51	47	56	51	47	45								
9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42								
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	97370	97370	97370	97370
5°	96681	96466	96681	96466
10°	94182	93965	94182	93965
15°	90017	89900	90017	89900
20°	85592	85284	85592	85284
25°	75970	76206	75970	76206
30°	62502	62836	62502	62836
35°	48487	49009	48487	49009
40°	35223	35831	35223	35831
45°	26661	27337	26661	27337
50°	22966	23142	22966	23142
55°	19967	20186	19967	20186
60°	17443	17594	17443	17594
65°	15336	15455	15336	15455
70°	13541	13615	13541	13615
75°	11913	11913	11913	11913
80°	10291	10219	10291	10219
85°	8231	8231	8231	8231

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 27337 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.1	7.2
10°-20°	194.1	19.4
20°-30°	248.5	24.9
30°-40°	196.9	19.7
40°-50°	120.6	12.1
50°-60°	82.4	8.3
60°-70°	51.6	5.2
70°-80°	26.2	2.6
80°-90°	6.6	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°	514.7	51.5
0°-40°	711.6	71.2
0°-60°	914.6	91.6
0°-90°	999.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	999.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	774	774	774	774	774	
5°	765	764	765	764	765	72
15°	691	690	691	690	691	194
25°	547	549	547	549	547	248
35°	316	319	316	319	316	197
45°	150	154	150	154	150	119
55°	91	92	91	92	91	82
65°	52	52	52	52	52	51
75°	24	24	24	24	24	26
85°	6	6	6	6	6	7
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°	773.7	773.7	773.7	773.7	773.7	773.7	773.7	773.7	773.7	773.7	773.7
0.5°	773.8	773.7	773.5	773.4	773.0	773.4	773.5	773.7	773.8	773.7	773.5
1°	773.5	773.4	773.2	773.1	772.7	773.1	773.2	773.4	773.5	773.4	773.2
1.5°	773.0	772.8	772.8	772.6	772.3	772.6	772.8	772.8	773.0	772.8	772.8
2°	772.4	772.3	772.1	772.0	771.6	772.0	772.1	772.3	772.4	772.3	772.1
2.5°	771.7	771.5	771.3	771.2	770.7	771.2	771.3	771.5	771.7	771.5	771.3
3°	770.7	770.5	770.2	770.0	769.5	770.0	770.2	770.5	770.7	770.5	770.2
3.5°	769.5	769.3	769.0	768.8	768.5	768.8	769.0	769.3	769.5	769.3	769.0
4°	768.2	768.1	767.7	767.4	766.9	767.4	767.7	768.1	768.2	768.1	767.7
4.5°	766.7	766.5	766.1	765.9	765.3	765.9	766.1	766.5	766.7	766.5	766.1
5°	765.3	765.0	764.5	764.3	763.6	764.3	764.5	765.0	765.3	765.0	764.5
5.5°	763.7	763.0	762.5	762.3	761.6	762.3	762.5	763.0	763.7	763.0	762.5
6°	761.3	760.9	760.4	760.1	759.3	760.1	760.4	760.9	761.3	760.9	760.4
6.5°	759.0	758.6	758.0	757.7	756.9	757.7	758.0	758.6	759.0	758.6	758.0
7°	756.5	756.0	755.7	755.2	754.5	755.2	755.7	756.0	756.5	756.0	755.7
7.5°	753.7	753.3	752.8	752.6	751.9	752.6	752.8	753.3	753.7	753.3	752.8
8°	750.7	750.4	749.9	749.6	749.2	749.6	749.9	750.4	750.7	750.4	749.9
8.5°	747.6	747.1	746.7	746.4	746.0	746.4	746.7	747.1	747.6	747.1	746.7
9°	744.2	743.9	743.4	743.1	742.7	743.1	743.4	743.9	744.2	743.9	743.4
9.5°	740.6	740.4	739.9	739.6	739.2	739.6	739.9	740.4	740.6	740.4	739.9
10°	737.0	736.7	736.3	735.8	735.3	735.8	736.3	736.7	737.0	736.7	736.3
10.5°	732.9	732.7	732.2	731.9	731.5	731.9	732.2	732.7	732.9	732.7	732.2
11°	728.9	728.7	728.3	727.9	727.3	727.9	728.3	728.7	728.9	728.7	728.3
11.5°	724.7	724.4	724.0	723.6	723.2	723.6	724.0	724.4	724.7	724.4	724.0
12°	720.3	720.1	719.8	719.3	718.9	719.3	719.8	720.1	720.3	720.1	719.8
12.5°	715.7	715.5	715.2	714.7	714.2	714.7	715.2	715.5	715.7	715.5	715.2
13°	711.1	710.9	710.6	710.1	709.6	710.1	710.6	710.9	711.1	710.9	710.6
13.5°	706.2	706.0	705.8	705.4	705.0	705.4	705.8	706.0	706.2	706.0	705.8
14°	701.2	701.1	700.9	700.5	700.1	700.5	700.9	701.1	701.2	701.1	700.9
14.5°	696.1	696.0	695.9	695.4	695.0	695.4	695.9	696.0	696.1	696.0	695.9
15°	690.9	690.9	690.7	690.5	690.0	690.5	690.7	690.9	690.9	690.9	690.7
15.5°	685.5	685.5	685.7	685.5	685.3	685.5	685.7	685.5	685.5	685.5	685.7
16°	680.3	680.4	680.7	680.6	680.4	680.6	680.7	680.4	680.3	680.4	680.7
16.5°	675.1	675.3	675.8	675.8	675.6	675.8	675.8	675.3	675.1	675.3	675.8
17°	670.3	670.5	670.9	670.8	670.9	670.8	670.9	670.5	670.3	670.5	670.9
17.5°	665.5	665.7	666.0	665.9	665.8	665.9	666.0	665.7	665.5	665.7	666.0
18°	660.8	660.9	661.1	660.9	660.7	660.9	661.1	660.9	660.8	660.9	661.1
18.5°	655.9	655.9	655.9	655.7	655.3	655.7	655.9	655.9	655.9	655.9	655.9
19°	650.8	650.5	650.3	650.0	649.6	650.0	650.3	650.5	650.8	650.5	650.3
19.5°	645.2	644.8	644.1	643.9	643.6	643.9	644.1	644.8	645.2	644.8	644.1
20°	639.1	638.6	637.4	637.5	636.8	637.5	637.4	638.6	639.1	638.6	637.4
20.5°	632.3	631.5	630.2	630.6	629.7	630.6	630.2	631.5	632.3	631.5	630.2
21°	625.3	624.0	622.5	623.0	622.0	623.0	622.5	624.0	625.3	624.0	622.5



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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°	599.5	598.2	597.2	597.1	596.6	597.1	597.2	598.2	599.5	598.2	597.2
23°	589.7	588.6	588.4	587.7	587.5	587.7	588.4	588.6	589.7	588.6	588.4
23.5°	579.6	578.7	579.2	577.9	578.5	577.9	579.2	578.7	579.6	578.7	579.2
24°	569.1	568.4	569.7	568.0	568.9	568.0	569.7	568.4	569.1	568.4	569.7
24.5°	558.4	558.0	559.6	557.9	559.2	557.9	559.6	558.0	558.4	558.0	559.6
25°	547.1	547.3	549.1	547.9	548.8	547.9	549.1	547.3	547.1	547.3	549.1
25.5°	535.4	536.7	538.4	537.8	538.1	537.8	538.4	536.7	535.4	536.7	538.4
26°	523.3	525.7	527.3	527.4	526.6	527.4	527.3	525.7	523.3	525.7	527.3
26.5°	511.0	514.5	515.8	516.5	514.6	516.5	515.8	514.5	511.0	514.5	515.8
27°	499.0	502.9	504.2	505.3	502.5	505.3	504.2	502.9	499.0	502.9	504.2
27.5°	487.2	490.9	492.4	493.8	490.2	493.8	492.4	490.9	487.2	490.9	492.4
28°	475.4	478.9	480.3	481.8	477.9	481.8	480.3	478.9	475.4	478.9	480.3
28.5°	463.9	466.7	468.3	469.6	465.9	469.6	468.3	466.7	463.9	466.7	468.3
29°	452.5	454.3	456.3	457.1	454.6	457.1	456.3	454.3	452.5	454.3	456.3
29.5°	441.3	442.2	444.4	444.7	443.6	444.7	444.4	442.2	441.3	442.2	444.4
30°	430.1	429.8	432.2	432.3	432.4	432.3	432.2	429.8	430.1	429.8	432.2
30.5°	418.5	417.8	420.0	420.2	421.8	420.2	420.0	417.8	418.5	417.8	420.0
31°	407.0	405.4	407.8	408.2	410.6	408.2	407.8	405.4	407.0	405.4	407.8
31.5°	395.2	393.6	395.6	396.3	399.3	396.3	395.6	393.6	395.2	393.6	395.6
32°	383.2	381.7	383.5	384.6	387.7	384.6	383.5	381.7	383.2	381.7	383.5
32.5°	371.5	370.3	371.5	373.0	376.1	373.0	371.5	370.3	371.5	370.3	371.5
33°	359.8	358.9	359.3	361.4	364.3	361.4	359.3	358.9	359.8	358.9	359.3
33.5°	349.4	347.5	347.2	349.8	352.4	349.8	347.2	347.5	349.4	347.5	347.2
34°	338.1	336.1	335.2	338.4	341.1	338.4	335.2	336.1	338.1	336.1	335.2
34.5°	326.9	324.8	323.5	326.9	329.9	326.9	323.5	324.8	326.9	324.8	323.5
35°	315.6	313.8	312.4	315.8	319.0	315.8	312.4	313.8	315.6	313.8	312.4
35.5°	304.6	303.0	301.4	304.8	308.3	304.8	301.4	303.0	304.6	303.0	301.4
36°	293.8	292.1	290.7	294.3	297.9	294.3	290.7	292.1	293.8	292.1	290.7
36.5°	283.2	281.6	280.4	283.8	287.2	283.8	280.4	281.6	283.2	281.6	280.4
37°	272.4	271.3	270.2	273.6	276.6	273.6	270.2	271.3	272.4	271.3	270.2
37.5°	261.9	261.2	260.5	263.9	266.1	263.9	260.5	261.2	261.9	261.2	260.5
38°	251.6	251.5	251.2	254.4	255.6	254.4	251.2	251.5	251.6	251.5	251.2
38.5°	241.8	242.0	242.2	245.0	245.6	245.0	242.2	242.0	241.8	242.0	242.2
39°	232.4	232.9	233.3	236.0	235.9	236.0	233.3	232.9	232.4	232.9	233.3
39.5°	223.2	224.1	224.8	227.1	226.8	227.1	224.8	224.1	223.2	224.1	224.8
40°	214.4	215.4	216.7	218.5	218.1	218.5	216.7	215.4	214.4	215.4	216.7
40.5°	206.1	207.1	208.8	210.1	210.0	210.1	208.8	207.1	206.1	207.1	208.8
41°	198.1	199.1	201.3	202.2	202.6	202.2	201.3	199.1	198.1	199.1	201.3
41.5°	190.5	191.7	194.2	194.7	195.6	194.7	194.2	191.7	190.5	191.7	194.2
42°	183.5	184.6	187.3	187.6	188.9	187.6	187.3	184.6	183.5	184.6	187.3
42.5°	176.9	178.0	180.9	181.0	182.4	181.0	180.9	178.0	176.9	178.0	180.9
43°	170.5	171.8	174.6	174.8	176.0	174.8	174.6	171.8	170.5	171.8	174.6
43.5°	164.7	166.0	168.7	168.8	169.9	168.8	168.7	166.0	164.7	166.0	168.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	149.8	150.9	152.5	153.0	153.6	153.0	152.5	150.9	149.8	150.9	152.5
45.5°	145.5	146.3	147.9	148.4	148.8	148.4	147.9	146.3	145.5	146.3	147.9
46°	141.3	142.1	143.4	144.1	144.3	144.1	143.4	142.1	141.3	142.1	143.4
46.5°	137.5	138.1	139.1	140.0	140.2	140.0	139.1	138.1	137.5	138.1	139.1
47°	133.9	134.3	135.3	136.1	136.5	136.1	135.3	134.3	133.9	134.3	135.3
47.5°	130.4	130.8	131.7	132.6	133.0	132.6	131.7	130.8	130.4	130.8	131.7
48°	127.2	127.6	128.6	129.4	129.8	129.4	128.6	127.6	127.2	127.6	128.6
48.5°	124.6	124.9	125.6	126.4	126.7	126.4	125.6	124.9	124.6	124.9	125.6
49°	122.2	122.3	122.9	123.5	123.8	123.5	122.9	122.3	122.2	122.3	122.9
49.5°	119.8	119.9	120.3	120.8	120.9	120.8	120.3	119.9	119.8	119.9	120.3
50°	117.3	117.4	117.7	118.1	118.2	118.1	117.7	117.4	117.3	117.4	117.7
50.5°	114.8	114.9	115.1	115.5	115.5	115.5	115.1	114.9	114.8	114.9	115.1
51°	112.0	112.2	112.5	112.9	112.9	112.9	112.5	112.2	112.0	112.2	112.5
51.5°	109.3	109.4	109.8	110.3	110.4	110.3	109.8	109.4	109.3	109.4	109.8
52°	106.5	106.7	107.1	107.7	107.8	107.7	107.1	106.7	106.5	106.7	107.1
52.5°	103.7	103.9	104.4	104.9	105.1	104.9	104.4	103.9	103.7	103.9	104.4
53°	101.1	101.3	101.7	102.2	102.4	102.2	101.7	101.3	101.1	101.3	101.7
53.5°	98.4	98.6	99.1	99.6	99.8	99.6	99.1	98.6	98.4	98.6	99.1
54°	95.9	96.0	96.5	96.9	97.1	96.9	96.5	96.0	95.9	96.0	96.5
54.5°	93.5	93.6	94.0	94.4	94.6	94.4	94.0	93.6	93.5	93.6	94.0
55°	91.0	91.2	91.6	91.9	92.0	91.9	91.6	91.2	91.0	91.2	91.6
55.5°	88.6	88.8	89.2	89.5	89.6	89.5	89.2	88.8	88.6	88.8	89.2
56°	86.3	86.5	86.8	87.1	87.2	87.1	86.8	86.5	86.3	86.5	86.8
56.5°	84.0	84.2	84.5	84.9	85.0	84.9	84.5	84.2	84.0	84.2	84.5
57°	81.7	82.0	82.3	82.6	82.7	82.6	82.3	82.0	81.7	82.0	82.3
57.5°	79.5	79.8	80.1	80.3	80.5	80.3	80.1	79.8	79.5	79.8	80.1
58°	77.5	77.6	77.9	78.2	78.3	78.2	77.9	77.6	77.5	77.6	77.9
58.5°	75.4	75.5	75.8	76.1	76.2	76.1	75.8	75.5	75.4	75.5	75.8
59°	73.4	73.5	73.7	73.9	74.1	73.9	73.7	73.5	73.4	73.5	73.7
59.5°	71.3	71.4	71.6	71.9	72.0	71.9	71.6	71.4	71.3	71.4	71.6
60°	69.3	69.4	69.6	69.8	69.9	69.8	69.6	69.4	69.3	69.4	69.6
60.5°	67.3	67.5	67.7	67.9	68.0	67.9	67.7	67.5	67.3	67.5	67.7
61°	65.5	65.6	65.8	66.0	66.1	66.0	65.8	65.6	65.5	65.6	65.8
61.5°	63.6	63.7	63.9	64.1	64.2	64.1	63.9	63.7	63.6	63.7	63.9
62°	61.9	61.9	62.1	62.3	62.3	62.3	62.1	61.9	61.9	61.9	62.1
62.5°	60.0	60.1	60.2	60.4	60.5	60.4	60.2	60.1	60.0	60.1	60.2
63°	58.2	58.3	58.4	58.6	58.6	58.6	58.4	58.3	58.2	58.3	58.4
63.5°	56.5	56.6	56.7	56.9	57.0	56.9	56.7	56.6	56.5	56.6	56.7
64°	54.8	54.9	55.0	55.1	55.2	55.1	55.0	54.9	54.8	54.9	55.0
64.5°	53.2	53.3	53.4	53.5	53.6	53.5	53.4	53.3	53.2	53.3	53.4
65°	51.5	51.6	51.7	51.8	51.9	51.8	51.7	51.6	51.5	51.6	51.7
65.5°	49.9	49.9	50.0	50.3	50.3	50.3	50.0	49.9	49.9	49.9	50.0
66°	48.3	48.4	48.5	48.6	48.7	48.6	48.5	48.4	48.3	48.4	48.5



TEST NUMBER: P775662

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	43.7	43.8	43.9	44.0	44.0	44.0	43.9	43.8	43.7	43.8	43.9
68°	42.3	42.4	42.5	42.6	42.6	42.6	42.5	42.4	42.3	42.4	42.5
68.5°	40.8	40.9	41.0	41.0	41.1	41.0	41.0	40.9	40.8	40.9	41.0
69°	39.5	39.5	39.5	39.7	39.7	39.7	39.5	39.5	39.5	39.5	39.5
69.5°	38.0	38.1	38.1	38.2	38.3	38.2	38.1	38.1	38.0	38.1	38.1
70°	36.8	36.9	36.8	36.9	37.0	36.9	36.8	36.9	36.8	36.9	36.8
70.5°	35.4	35.5	35.5	35.5	35.6	35.5	35.5	35.5	35.4	35.5	35.5
71°	34.2	34.2	34.2	34.2	34.3	34.2	34.2	34.2	34.2	34.2	34.2
71.5°	32.8	32.8	32.9	32.9	32.9	32.9	32.9	32.8	32.8	32.8	32.9
72°	31.6	31.6	31.6	31.7	31.7	31.7	31.6	31.6	31.6	31.6	31.6
72.5°	30.4	30.4	30.4	30.5	30.5	30.5	30.4	30.4	30.4	30.4	30.4
73°	29.1	29.1	29.1	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.1
73.5°	27.9	27.9	28.0	28.0	28.0	28.0	28.0	27.9	27.9	27.9	28.0
74°	26.7	26.7	26.7	26.8	26.8	26.8	26.7	26.7	26.7	26.7	26.7
74.5°	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
75°	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
75.5°	23.3	23.3	23.3	23.3	23.4	23.3	23.3	23.3	23.3	23.3	23.3
76°	22.3	22.2	22.2	22.3	22.3	22.3	22.2	22.2	22.3	22.2	22.2
76.5°	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1
77°	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
77.5°	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
78°	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
78.5°	17.1	17.1	17.0	17.0	17.1	17.0	17.0	17.1	17.1	17.1	17.0
79°	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
79.5°	15.1	15.1	15.0	15.1	15.1	15.1	15.0	15.1	15.1	15.1	15.0
80°	14.2	14.2	14.1	14.1	14.1	14.1	14.1	14.2	14.2	14.2	14.1
80.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
81°	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
81.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
82°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
82.5°	9.7	9.7	9.7	9.7	9.6	9.7	9.7	9.7	9.7	9.7	9.7
83°	8.9	8.9	8.9	8.8	8.8	8.8	8.9	8.9	8.9	8.9	8.9
83.5°	8.1	8.1	8.1	8.0	8.0	8.0	8.1	8.1	8.1	8.1	8.1
84°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
84.5°	6.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.4	6.4
85°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
85.5°	5.0	4.9	5.0	4.9	5.0	4.9	5.0	4.9	5.0	4.9	5.0
86°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
86.5°	3.5	3.4	3.4	3.4	3.5	3.4	3.4	3.4	3.5	3.4	3.4
87°	2.8	2.8	2.8	2.7	2.8	2.7	2.8	2.8	2.8	2.8	2.8
87.5°	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1
88°	1.3	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.3	1.5	1.5
88.5°	0.8	0.8	0.9	1.0	1.2	1.0	0.9	0.8	0.8	0.8	0.9



TEST NUMBER: P775662
CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P775662

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	773.7	773.7	773.7	773.7	773.7	773.7
0.5°	773.4	773.0	773.4	773.5	773.7	773.8
1°	773.1	772.7	773.1	773.2	773.4	773.5
1.5°	772.6	772.3	772.6	772.8	772.8	773.0
2°	772.0	771.6	772.0	772.1	772.3	772.4
2.5°	771.2	770.7	771.2	771.3	771.5	771.7
3°	770.0	769.5	770.0	770.2	770.5	770.7
3.5°	768.8	768.5	768.8	769.0	769.3	769.5
4°	767.4	766.9	767.4	767.7	768.1	768.2
4.5°	765.9	765.3	765.9	766.1	766.5	766.7
5°	764.3	763.6	764.3	764.5	765.0	765.3
5.5°	762.3	761.6	762.3	762.5	763.0	763.7
6°	760.1	759.3	760.1	760.4	760.9	761.3
6.5°	757.7	756.9	757.7	758.0	758.6	759.0
7°	755.2	754.5	755.2	755.7	756.0	756.5
7.5°	752.6	751.9	752.6	752.8	753.3	753.7
8°	749.6	749.2	749.6	749.9	750.4	750.7
8.5°	746.4	746.0	746.4	746.7	747.1	747.6
9°	743.1	742.7	743.1	743.4	743.9	744.2
9.5°	739.6	739.2	739.6	739.9	740.4	740.6
10°	735.8	735.3	735.8	736.3	736.7	737.0
10.5°	731.9	731.5	731.9	732.2	732.7	732.9
11°	727.9	727.3	727.9	728.3	728.7	728.9
11.5°	723.6	723.2	723.6	724.0	724.4	724.7
12°	719.3	718.9	719.3	719.8	720.1	720.3
12.5°	714.7	714.2	714.7	715.2	715.5	715.7
13°	710.1	709.6	710.1	710.6	710.9	711.1
13.5°	705.4	705.0	705.4	705.8	706.0	706.2
14°	700.5	700.1	700.5	700.9	701.1	701.2
14.5°	695.4	695.0	695.4	695.9	696.0	696.1
15°	690.5	690.0	690.5	690.7	690.9	690.9
15.5°	685.5	685.3	685.5	685.7	685.5	685.5
16°	680.6	680.4	680.6	680.7	680.4	680.3
16.5°	675.8	675.6	675.8	675.8	675.3	675.1
17°	670.8	670.9	670.8	670.9	670.5	670.3
17.5°	665.9	665.8	665.9	666.0	665.7	665.5
18°	660.9	660.7	660.9	661.1	660.9	660.8
18.5°	655.7	655.3	655.7	655.9	655.9	655.9
19°	650.0	649.6	650.0	650.3	650.5	650.8
19.5°	643.9	643.6	643.9	644.1	644.8	645.2
20°	637.5	636.8	637.5	637.4	638.6	639.1
20.5°	630.6	629.7	630.6	630.2	631.5	632.3
21°	623.0	622.0	623.0	622.5	624.0	625.3

TEST NUMBER: P775662

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	597.1	596.6	597.1	597.2	598.2	599.5
23°	587.7	587.5	587.7	588.4	588.6	589.7
23.5°	577.9	578.5	577.9	579.2	578.7	579.6
24°	568.0	568.9	568.0	569.7	568.4	569.1
24.5°	557.9	559.2	557.9	559.6	558.0	558.4
25°	547.9	548.8	547.9	549.1	547.3	547.1
25.5°	537.8	538.1	537.8	538.4	536.7	535.4
26°	527.4	526.6	527.4	527.3	525.7	523.3
26.5°	516.5	514.6	516.5	515.8	514.5	511.0
27°	505.3	502.5	505.3	504.2	502.9	499.0
27.5°	493.8	490.2	493.8	492.4	490.9	487.2
28°	481.8	477.9	481.8	480.3	478.9	475.4
28.5°	469.6	465.9	469.6	468.3	466.7	463.9
29°	457.1	454.6	457.1	456.3	454.3	452.5
29.5°	444.7	443.6	444.7	444.4	442.2	441.3
30°	432.3	432.4	432.3	432.2	429.8	430.1
30.5°	420.2	421.8	420.2	420.0	417.8	418.5
31°	408.2	410.6	408.2	407.8	405.4	407.0
31.5°	396.3	399.3	396.3	395.6	393.6	395.2
32°	384.6	387.7	384.6	383.5	381.7	383.2
32.5°	373.0	376.1	373.0	371.5	370.3	371.5
33°	361.4	364.3	361.4	359.3	358.9	359.8
33.5°	349.8	352.4	349.8	347.2	347.5	349.4
34°	338.4	341.1	338.4	335.2	336.1	338.1
34.5°	326.9	329.9	326.9	323.5	324.8	326.9
35°	315.8	319.0	315.8	312.4	313.8	315.6
35.5°	304.8	308.3	304.8	301.4	303.0	304.6
36°	294.3	297.9	294.3	290.7	292.1	293.8
36.5°	283.8	287.2	283.8	280.4	281.6	283.2
37°	273.6	276.6	273.6	270.2	271.3	272.4
37.5°	263.9	266.1	263.9	260.5	261.2	261.9
38°	254.4	255.6	254.4	251.2	251.5	251.6
38.5°	245.0	245.6	245.0	242.2	242.0	241.8
39°	236.0	235.9	236.0	233.3	232.9	232.4
39.5°	227.1	226.8	227.1	224.8	224.1	223.2
40°	218.5	218.1	218.5	216.7	215.4	214.4
40.5°	210.1	210.0	210.1	208.8	207.1	206.1
41°	202.2	202.6	202.2	201.3	199.1	198.1
41.5°	194.7	195.6	194.7	194.2	191.7	190.5
42°	187.6	188.9	187.6	187.3	184.6	183.5
42.5°	181.0	182.4	181.0	180.9	178.0	176.9
43°	174.8	176.0	174.8	174.6	171.8	170.5
43.5°	168.8	169.9	168.8	168.7	166.0	164.7



TEST NUMBER: P775662

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	153.0	153.6	153.0	152.5	150.9	149.8
45.5°	148.4	148.8	148.4	147.9	146.3	145.5
46°	144.1	144.3	144.1	143.4	142.1	141.3
46.5°	140.0	140.2	140.0	139.1	138.1	137.5
47°	136.1	136.5	136.1	135.3	134.3	133.9
47.5°	132.6	133.0	132.6	131.7	130.8	130.4
48°	129.4	129.8	129.4	128.6	127.6	127.2
48.5°	126.4	126.7	126.4	125.6	124.9	124.6
49°	123.5	123.8	123.5	122.9	122.3	122.2
49.5°	120.8	120.9	120.8	120.3	119.9	119.8
50°	118.1	118.2	118.1	117.7	117.4	117.3
50.5°	115.5	115.5	115.5	115.1	114.9	114.8
51°	112.9	112.9	112.9	112.5	112.2	112.0
51.5°	110.3	110.4	110.3	109.8	109.4	109.3
52°	107.7	107.8	107.7	107.1	106.7	106.5
52.5°	104.9	105.1	104.9	104.4	103.9	103.7
53°	102.2	102.4	102.2	101.7	101.3	101.1
53.5°	99.6	99.8	99.6	99.1	98.6	98.4
54°	96.9	97.1	96.9	96.5	96.0	95.9
54.5°	94.4	94.6	94.4	94.0	93.6	93.5
55°	91.9	92.0	91.9	91.6	91.2	91.0
55.5°	89.5	89.6	89.5	89.2	88.8	88.6
56°	87.1	87.2	87.1	86.8	86.5	86.3
56.5°	84.9	85.0	84.9	84.5	84.2	84.0
57°	82.6	82.7	82.6	82.3	82.0	81.7
57.5°	80.3	80.5	80.3	80.1	79.8	79.5
58°	78.2	78.3	78.2	77.9	77.6	77.5
58.5°	76.1	76.2	76.1	75.8	75.5	75.4
59°	73.9	74.1	73.9	73.7	73.5	73.4
59.5°	71.9	72.0	71.9	71.6	71.4	71.3
60°	69.8	69.9	69.8	69.6	69.4	69.3
60.5°	67.9	68.0	67.9	67.7	67.5	67.3
61°	66.0	66.1	66.0	65.8	65.6	65.5
61.5°	64.1	64.2	64.1	63.9	63.7	63.6
62°	62.3	62.3	62.3	62.1	61.9	61.9
62.5°	60.4	60.5	60.4	60.2	60.1	60.0
63°	58.6	58.6	58.6	58.4	58.3	58.2
63.5°	56.9	57.0	56.9	56.7	56.6	56.5
64°	55.1	55.2	55.1	55.0	54.9	54.8
64.5°	53.5	53.6	53.5	53.4	53.3	53.2
65°	51.8	51.9	51.8	51.7	51.6	51.5
65.5°	50.3	50.3	50.3	50.0	49.9	49.9
66°	48.6	48.7	48.6	48.5	48.4	48.3



TEST NUMBER: P775662

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	44.0	44.0	44.0	43.9	43.8	43.7
68°	42.6	42.6	42.6	42.5	42.4	42.3
68.5°	41.0	41.1	41.0	41.0	40.9	40.8
69°	39.7	39.7	39.7	39.5	39.5	39.5
69.5°	38.2	38.3	38.2	38.1	38.1	38.0
70°	36.9	37.0	36.9	36.8	36.9	36.8
70.5°	35.5	35.6	35.5	35.5	35.5	35.4
71°	34.2	34.3	34.2	34.2	34.2	34.2
71.5°	32.9	32.9	32.9	32.9	32.8	32.8
72°	31.7	31.7	31.7	31.6	31.6	31.6
72.5°	30.5	30.5	30.5	30.4	30.4	30.4
73°	29.2	29.2	29.2	29.1	29.1	29.1
73.5°	28.0	28.0	28.0	28.0	27.9	27.9
74°	26.8	26.8	26.8	26.7	26.7	26.7
74.5°	25.6	25.6	25.6	25.6	25.6	25.6
75°	24.5	24.5	24.5	24.5	24.5	24.5
75.5°	23.3	23.4	23.3	23.3	23.3	23.3
76°	22.3	22.3	22.3	22.2	22.2	22.3
76.5°	21.1	21.1	21.1	21.1	21.1	21.1
77°	20.1	20.1	20.1	20.1	20.1	20.1
77.5°	19.1	19.1	19.1	19.1	19.1	19.1
78°	18.0	18.0	18.0	18.0	18.0	18.0
78.5°	17.0	17.1	17.0	17.0	17.1	17.1
79°	16.1	16.1	16.1	16.1	16.1	16.1
79.5°	15.1	15.1	15.1	15.0	15.1	15.1
80°	14.1	14.1	14.1	14.1	14.2	14.2
80.5°	13.3	13.3	13.3	13.3	13.3	13.3
81°	12.3	12.3	12.3	12.3	12.3	12.3
81.5°	11.4	11.4	11.4	11.4	11.4	11.4
82°	10.6	10.6	10.6	10.6	10.6	10.6
82.5°	9.7	9.6	9.7	9.7	9.7	9.7
83°	8.8	8.8	8.8	8.9	8.9	8.9
83.5°	8.0	8.0	8.0	8.1	8.1	8.1
84°	7.3	7.3	7.3	7.3	7.3	7.3
84.5°	6.4	6.4	6.4	6.4	6.4	6.5
85°	5.7	5.7	5.7	5.7	5.7	5.7
85.5°	4.9	5.0	4.9	5.0	4.9	5.0
86°	4.1	4.1	4.1	4.1	4.1	4.1
86.5°	3.4	3.5	3.4	3.4	3.4	3.5
87°	2.7	2.8	2.7	2.8	2.8	2.8
87.5°	2.1	2.2	2.1	2.1	2.1	2.1
88°	1.6	1.6	1.6	1.5	1.5	1.3
88.5°	1.0	1.2	1.0	0.9	0.8	0.8



TEST NUMBER: P775662

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.2	0.3	0.2	0.1	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270° - · - · 135°-315°

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21.5°	617.1	616.1	614.3	614.8	613.8	614.8	614.3	616.1	617.1	616.1	614.3
22°	608.5	607.5	605.9	606.1	605.1	606.1	605.9	607.5	608.5	607.5	605.9



44°	159.4	160.6	163.0	163.2	164.2	163.2	163.0	160.6	159.4	160.6	163.0
44.5°	154.4	155.6	157.7	158.0	158.7	158.0	157.7	155.6	154.4	155.6	157.7



66.5°	46.7	46.8	46.9	47.0	47.1	47.0	46.9	46.8	46.7	46.8	46.9
67°	45.3	45.3	45.4	45.5	45.6	45.5	45.4	45.3	45.3	45.3	45.4



89°	0.3	0.4	0.6	0.7	0.8	0.7	0.6	0.4	0.3	0.4	0.6
89.5°	0.0	0.1	0.3	0.4	0.5	0.4	0.3	0.1	0.0	0.1	0.3

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21.5°	614.8	613.8	614.8	614.3	616.1	617.1
22°	606.1	605.1	606.1	605.9	607.5	608.5



44°	163.2	164.2	163.2	163.0	160.6	159.4
44.5°	158.0	158.7	158.0	157.7	155.6	154.4

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66.5°	47.0	47.1	47.0	46.9	46.8	46.7
67°	45.5	45.6	45.5	45.4	45.3	45.3



89°	0.7	0.8	0.7	0.6	0.4	0.3
89.5°	0.4	0.5	0.4	0.3	0.1	0.0

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(END OF REPORT)