

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: P775803

Luminaire Tested: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775803  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B018)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K  
Description: 6 INCH SQUARE MEDIUM LENSED WALLWASH KIT  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

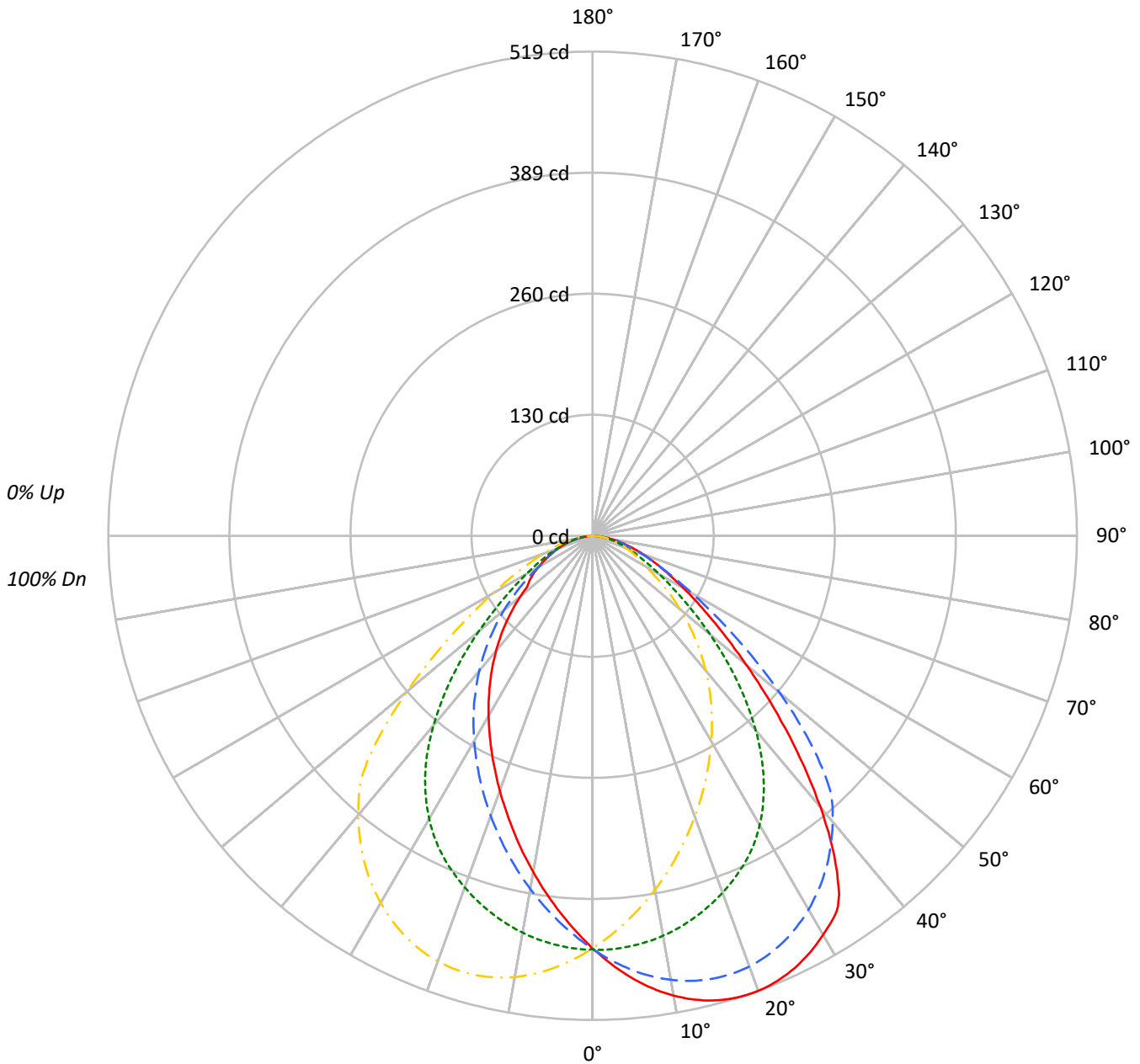
Lumens per Lamp: N/A  
Luminaire Lumens: 932.2 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.19 / 1.3  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	104	101	98	100	97	95	96	94	92	93	91	89	87					87			
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	83	80	78	76					76			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	69	63	85	75	68	62	73	66	61	70	65	61	68	64	60	58					58			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	54	62	57	53	51					51			
6	75	63	55	49	73	62	54	49	60	53	48	59	52	48	57	52	47	45					45			
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	52	47	43	41					41			
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33					33			
10	57	45	38	33	56	45	37	33	44	37	32	43	37	32	42	36	32	31					31			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	19069	19069	19069	19069
5°	20551	19112	17491	19038
10°	21882	19031	16006	18887
15°	22974	18877	14607	18663
20°	23785	18653	13324	18378
25°	24304	18352	12157	18010
30°	24555	17798	11087	17421
35°	24136	16804	10065	16452
40°	21364	15277	9038	14900
45°	17792	13268	7958	12884
50°	14395	10999	6759	10657
55°	11658	8805	6140	8595
60°	9731	7139	5761	7070
65°	8273	5940	5257	5980
70°	7201	5098	4847	5187
75°	6272	4408	4392	4558
80°	5157	3769	3670	3967
85°	3310	2915	2025	3211

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 20989 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.8	4.5
10°-20°	118.8	12.7
20°-30°	176.2	18.9
30°-40°	201.3	21.6
40°-50°	175.0	18.8
50°-60°	113.9	12.2
60°-70°	64.9	7.0
70°-80°	32.5	3.5
80°-90°	7.7	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°	336.8	36.1
0°-40°	538.1	57.7
0°-60°	827.0	88.7
0°-90°	932.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	932.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	443	443	443	443	443	
5°	476	442	405	440	476	46
15°	515	424	328	419	515	146
25°	512	386	256	379	512	236
35°	459	320	192	313	459	282
45°	292	218	131	212	292	226
55°	155	117	82	114	155	141
65°	81	58	52	59	81	81
75°	38	26	26	27	38	40
85°	7	6	4	6	7	9
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°	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9	442.9
0.5°	445.7	445.7	445.7	445.1	443.9	442.9	439.7	438.4	438.4	438.9	440.3
1°	449.1	448.9	448.1	446.5	443.9	441.6	437.2	435.1	434.7	435.5	437.7
1.5°	452.7	452.3	450.6	447.9	443.9	440.1	434.4	431.7	431.0	432.0	434.9
2°	456.2	455.5	453.0	449.1	443.8	438.6	431.8	428.2	427.3	428.6	432.2
2.5°	459.5	458.6	455.5	450.4	443.7	437.1	429.2	424.8	423.5	425.1	429.4
3°	462.9	461.7	457.9	451.6	443.5	435.6	426.3	421.3	419.8	421.6	426.5
3.5°	466.2	464.8	460.1	452.7	443.3	434.0	423.6	417.8	416.0	418.0	423.7
4°	469.3	467.7	462.4	453.8	442.8	432.2	420.8	414.4	412.4	414.6	420.9
4.5°	472.5	470.6	464.5	454.8	442.5	430.6	418.0	410.7	408.5	410.9	418.0
5°	475.5	473.4	466.6	455.9	442.2	428.9	415.2	407.2	404.7	407.3	415.1
5.5°	478.3	476.1	468.7	456.7	441.7	427.1	412.2	403.6	400.9	403.7	412.1
6°	481.2	478.8	470.6	457.5	441.1	425.2	409.3	400.1	397.1	400.1	409.1
6.5°	484.0	481.3	472.5	458.4	440.6	423.4	406.5	396.5	393.2	396.5	406.2
7°	486.7	483.8	474.3	459.1	440.0	421.6	403.5	392.8	389.3	392.8	403.1
7.5°	489.2	486.1	476.0	459.9	439.4	419.5	400.5	389.1	385.5	389.1	400.1
8°	491.6	488.4	477.6	460.5	438.6	417.6	397.4	385.6	381.7	385.5	397.0
8.5°	494.0	490.5	479.2	461.0	437.9	415.5	394.5	381.9	377.8	381.9	393.9
9°	496.3	492.7	480.7	461.4	437.1	413.5	391.4	378.3	373.8	378.1	390.8
9.5°	498.5	494.7	482.0	461.9	436.2	411.5	388.4	374.5	370.0	374.4	387.7
10°	500.5	496.6	483.4	462.3	435.3	409.3	385.2	370.8	366.1	370.7	384.5
10.5°	502.5	498.5	484.7	462.6	434.4	407.2	382.1	367.2	362.3	367.1	381.4
11°	504.4	500.2	485.7	462.8	433.4	405.0	378.9	363.5	358.4	363.3	378.2
11.5°	506.2	501.8	486.9	463.0	432.3	402.7	375.8	359.9	354.5	359.7	375.0
12°	507.9	503.4	487.8	463.0	431.2	400.4	372.6	356.0	350.7	355.9	371.8
12.5°	509.5	504.7	488.6	463.1	430.0	398.1	369.5	352.5	346.9	352.2	368.6
13°	510.8	506.1	489.5	463.0	428.9	395.9	366.2	348.8	343.0	348.5	365.4
13.5°	512.2	507.2	490.2	462.9	427.5	393.4	363.0	345.1	339.1	344.9	362.1
14°	513.3	508.4	490.9	462.8	426.2	391.0	359.8	341.4	335.3	341.1	358.9
14.5°	514.5	509.3	491.4	462.6	424.9	388.6	356.4	337.6	331.4	337.4	355.6
15°	515.4	510.3	491.8	462.3	423.5	386.1	353.2	334.0	327.7	333.8	352.4
15.5°	516.4	511.0	492.2	461.9	422.0	383.7	349.9	330.4	323.9	330.2	349.0
16°	517.1	511.8	492.4	461.4	420.6	381.1	346.7	326.7	320.1	326.4	345.7
16.5°	517.8	512.3	492.6	460.9	419.1	378.6	343.4	323.0	316.4	322.8	342.5
17°	518.3	512.7	492.7	460.3	417.4	376.0	340.1	319.4	312.6	319.1	339.2
17.5°	518.7	513.0	492.7	459.6	415.8	373.5	336.8	315.8	309.0	315.5	335.9
18°	519.0	513.2	492.6	459.0	414.1	371.0	333.5	312.1	305.2	311.9	332.5
18.5°	519.2	513.4	492.4	458.2	412.5	368.2	330.2	308.5	301.6	308.3	329.2
19°	519.2	513.4	492.1	457.3	410.7	365.5	326.9	305.0	298.0	304.7	326.0
19.5°	519.2	513.3	491.8	456.5	409.0	362.9	323.6	301.4	294.3	301.2	322.7
20°	519.1	513.1	491.3	455.4	407.1	360.2	320.2	297.8	290.8	297.6	319.4
20.5°	518.8	512.8	490.7	454.5	405.3	357.5	316.9	294.2	287.1	294.1	316.0
21°	518.5	512.4	490.0	453.3	403.3	354.7	313.6	290.8	283.6	290.6	312.7



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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°	516.6	510.4	487.5	449.7	397.3	346.4	303.7	280.4	273.0	280.3	302.8
23°	515.9	509.6	486.4	448.3	395.3	343.5	300.3	276.9	269.5	276.8	299.5
23.5°	514.9	508.6	485.3	446.9	393.1	340.7	297.1	273.4	266.1	273.4	296.2
24°	513.9	507.5	484.1	445.4	390.9	337.7	293.7	270.1	262.7	270.0	292.9
24.5°	512.7	506.3	482.8	443.9	388.7	334.9	290.5	266.7	259.4	266.5	289.6
25°	511.6	505.0	481.4	442.2	386.3	331.9	287.2	263.2	255.9	263.1	286.3
25.5°	510.2	503.6	479.9	440.5	384.0	329.0	283.8	259.9	252.5	259.9	283.1
26°	508.7	502.2	478.3	438.6	381.5	326.0	280.6	256.5	249.2	256.4	279.7
26.5°	507.1	500.5	476.7	436.8	378.9	322.9	277.3	253.3	245.8	253.2	276.5
27°	505.6	498.9	475.0	434.9	376.3	319.9	274.1	249.9	242.5	249.8	273.2
27.5°	503.9	497.2	473.1	432.8	373.5	316.8	270.7	246.5	239.3	246.5	270.1
28°	502.0	495.4	471.1	430.6	370.5	313.7	267.4	243.2	235.9	243.2	266.8
28.5°	500.1	493.4	469.2	428.4	367.7	310.4	264.3	239.9	232.7	239.9	263.6
29°	498.1	491.3	467.1	426.0	364.5	307.2	260.9	236.7	229.5	236.7	260.3
29.5°	496.0	489.2	464.9	423.5	361.4	303.9	257.8	233.4	226.2	233.5	257.0
30°	493.9	487.0	462.7	420.9	358.0	300.4	254.4	230.2	223.0	230.1	253.8
30.5°	491.7	484.7	460.4	418.1	354.7	297.0	251.2	226.9	219.7	227.0	250.6
31°	489.6	482.3	458.0	415.3	351.2	293.6	247.9	223.6	216.6	223.8	247.4
31.5°	487.5	479.9	455.4	412.1	347.6	290.0	244.6	220.6	213.4	220.6	244.1
32°	485.4	477.4	452.9	409.0	343.9	286.5	241.4	217.3	210.3	217.4	240.9
32.5°	482.9	475.0	450.2	405.6	340.1	282.9	238.1	214.1	207.1	214.3	237.7
33°	480.0	472.5	447.6	402.2	336.1	279.2	234.9	211.0	204.0	211.1	234.4
33.5°	476.6	470.0	444.8	398.6	332.2	275.5	231.6	207.9	200.8	208.1	231.2
34°	471.2	467.5	442.0	394.9	328.1	271.8	228.2	204.7	197.8	204.8	227.9
34.5°	466.5	464.8	438.9	390.9	324.0	268.0	225.0	201.4	194.6	201.8	224.7
35°	459.2	461.5	435.9	386.8	319.7	264.1	221.7	198.4	191.5	198.6	221.5
35.5°	452.5	457.9	432.7	382.6	315.4	260.3	218.6	195.2	188.4	195.6	218.3
36°	446.0	452.7	429.5	378.2	310.8	256.4	215.2	192.2	185.4	192.5	215.0
36.5°	437.6	447.7	426.1	373.8	306.2	252.5	211.9	189.0	182.2	189.4	211.6
37°	430.7	441.0	422.7	369.2	301.6	248.5	208.6	185.9	179.2	186.2	208.5
37.5°	422.4	434.0	419.1	364.2	296.9	244.5	205.2	182.8	176.1	183.2	205.1
38°	413.8	428.1	415.5	359.2	291.8	240.5	202.0	179.7	173.1	180.1	201.9
38.5°	406.0	419.8	411.7	354.1	287.1	236.5	198.6	176.6	170.0	177.1	198.6
39°	396.8	412.8	408.0	349.0	282.0	232.6	195.2	173.6	166.9	174.0	195.5
39.5°	388.8	405.2	404.1	343.5	277.0	228.5	191.9	170.4	163.8	171.0	192.1
40°	380.1	396.5	400.1	337.8	271.8	224.3	188.5	167.4	160.8	167.9	188.7
40.5°	370.4	389.6	396.0	332.2	266.6	220.2	185.3	164.4	157.8	164.9	185.5
41°	362.5	380.6	392.2	326.4	261.3	216.1	181.8	161.3	154.8	161.8	182.3
41.5°	353.0	372.2	388.0	320.3	256.0	211.9	178.4	158.3	151.8	158.9	178.9
42°	344.4	364.3	383.4	314.1	250.6	207.8	175.2	155.2	148.8	155.8	175.6
42.5°	335.7	355.2	378.4	308.0	245.3	203.6	171.9	152.3	145.8	152.8	172.4
43°	326.0	347.5	373.3	301.7	239.8	199.5	168.6	149.2	142.7	149.9	169.2
43.5°	318.4	338.8	366.5	295.2	234.3	195.2	165.1	146.2	139.8	146.8	165.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	292.2	312.7	344.7	275.6	217.9	182.6	155.2	137.1	130.7	137.9	156.2
45.5°	283.0	305.0	337.4	268.9	212.4	178.5	152.0	134.1	127.8	134.9	152.9
46°	276.0	296.6	329.1	262.3	207.0	174.3	148.6	131.1	124.7	131.9	149.6
46.5°	266.9	287.6	320.7	255.5	201.6	170.2	145.3	128.1	121.7	128.9	146.3
47°	259.5	280.4	312.9	248.6	196.1	166.1	142.0	125.1	118.7	125.9	143.1
47.5°	251.8	271.3	303.9	241.9	190.6	162.0	138.7	122.1	115.8	123.1	139.9
48°	243.2	264.3	295.7	235.2	185.3	158.0	135.6	119.1	112.9	120.0	136.6
48.5°	237.0	256.3	287.3	228.4	179.9	153.8	132.3	116.1	109.9	117.1	133.4
49°	228.2	248.1	278.3	221.6	174.5	149.9	128.9	113.1	106.9	114.1	130.2
49.5°	222.4	241.4	270.4	214.8	169.4	145.9	125.8	110.1	103.9	111.2	126.9
50°	214.9	232.8	261.6	208.1	164.2	142.0	122.5	107.2	100.9	108.2	123.8
50.5°	208.1	226.7	253.2	201.3	158.9	138.0	119.4	104.1	97.9	105.3	120.6
51°	202.1	218.7	245.0	194.6	153.8	134.1	116.2	101.3	95.1	102.4	117.4
51.5°	194.4	212.4	236.2	188.1	149.0	130.4	113.1	98.3	92.1	99.4	114.3
52°	189.6	205.8	228.8	181.6	144.2	126.5	109.9	95.3	89.3	96.6	111.2
52.5°	182.4	198.6	220.6	175.2	139.2	122.8	107.0	92.4	88.0	93.6	108.1
53°	177.5	192.9	212.8	168.9	134.7	119.2	103.8	90.1	86.7	91.2	105.1
53.5°	171.7	185.4	205.1	162.7	130.1	115.5	100.8	87.7	85.4	88.8	102.0
54°	165.9	180.3	197.2	156.6	125.8	112.0	97.8	85.5	84.3	86.4	99.1
54.5°	161.2	173.5	190.4	150.7	121.5	108.4	94.9	83.2	83.0	84.0	96.3
55°	155.3	168.2	182.8	145.0	117.3	105.1	91.9	81.0	81.8	81.5	93.3
55.5°	151.3	162.6	176.3	139.6	113.3	101.8	89.1	79.8	80.4	80.3	90.5
56°	145.4	156.8	169.2	134.2	109.3	98.5	86.3	78.5	79.0	79.1	87.7
56.5°	141.8	152.0	162.9	129.0	105.6	95.3	83.3	77.1	77.7	77.8	85.0
57°	136.8	146.0	156.6	124.1	101.9	92.2	80.5	75.9	76.2	76.5	82.3
57.5°	132.9	141.8	150.2	119.3	98.5	89.3	78.0	74.5	74.7	75.1	79.4
58°	128.7	136.1	144.4	114.8	95.1	86.4	75.2	73.1	73.2	73.8	76.9
58.5°	124.5	132.2	138.5	110.3	91.8	83.4	72.6	71.8	71.7	72.4	74.2
59°	120.8	126.9	133.2	106.2	88.8	80.6	70.1	70.4	70.1	71.0	71.7
59.5°	116.6	123.3	127.7	102.1	85.9	78.0	67.6	68.9	68.5	69.6	69.3
60°	113.0	118.5	122.7	98.4	82.9	75.5	65.2	67.6	66.9	68.1	66.8
60.5°	109.2	115.0	117.7	94.7	79.9	72.9	62.8	66.0	65.4	66.6	64.5
61°	105.6	110.5	113.2	91.1	77.1	70.5	60.7	64.6	63.8	65.2	62.3
61.5°	102.2	107.0	108.4	87.7	74.5	68.1	59.4	63.1	62.1	63.7	60.3
62°	99.0	103.1	104.5	84.5	72.0	65.9	58.2	61.6	60.5	62.1	58.8
62.5°	95.6	99.7	100.0	81.4	69.5	63.7	57.0	60.1	59.0	60.6	57.7
63°	92.7	96.0	96.3	78.5	67.1	61.6	55.7	58.5	57.4	59.1	56.4
63.5°	89.5	92.9	92.4	75.6	64.8	59.5	54.5	57.1	55.9	57.6	55.3
64°	86.8	89.4	88.8	72.8	62.6	57.5	53.3	55.6	54.4	56.0	54.1
64.5°	83.8	86.5	85.2	70.2	60.4	55.6	52.0	54.1	53.0	54.6	52.9
65°	81.2	83.3	82.0	67.7	58.3	53.7	50.8	52.6	51.6	53.2	51.7
65.5°	78.5	80.6	78.8	65.4	56.3	51.9	49.6	51.3	50.2	51.7	50.4
66°	76.0	77.6	75.8	62.9	54.3	50.1	48.2	49.9	48.9	50.2	49.2





TEST NUMBER: P775803

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	68.4	69.7	67.1	56.3	48.8	45.2	44.5	45.8	44.9	46.1	45.4
68°	66.1	67.0	64.4	54.2	47.0	43.6	43.2	44.6	43.6	44.9	44.1
68.5°	63.8	64.6	62.0	52.2	45.3	42.1	41.9	43.3	42.2	43.5	42.9
69°	61.5	62.3	59.4	50.2	43.7	40.7	40.7	41.9	41.0	42.2	41.5
69.5°	59.3	59.9	57.1	48.3	41.9	39.3	39.4	40.7	39.7	40.9	40.2
70°	57.2	57.7	54.9	46.6	40.5	37.8	38.1	39.4	38.5	39.6	39.0
70.5°	55.0	55.4	52.5	44.7	38.9	36.6	37.0	38.1	37.2	38.4	37.8
71°	52.9	53.3	50.4	43.0	37.4	35.2	35.7	36.9	36.0	37.1	36.6
71.5°	50.9	51.2	48.3	41.3	35.9	33.9	34.5	35.7	34.8	35.8	35.3
72°	48.9	49.1	46.2	39.6	34.5	32.7	33.3	34.5	33.5	34.6	34.0
72.5°	46.9	47.1	44.2	38.0	33.1	31.4	32.2	33.2	32.4	33.3	32.9
73°	44.9	45.0	42.3	36.6	31.7	30.3	31.0	31.9	31.1	32.1	31.7
73.5°	43.0	43.1	40.5	35.0	30.4	29.2	29.8	30.8	29.9	30.9	30.5
74°	41.1	41.2	38.6	33.5	29.0	28.1	28.7	29.5	28.8	29.6	29.3
74.5°	39.2	39.3	36.9	32.1	27.7	27.1	27.5	28.4	27.5	28.5	28.2
75°	37.7	37.7	35.2	30.6	26.5	26.2	26.4	27.1	26.4	27.2	27.0
75.5°	35.9	35.9	33.5	29.2	25.3	25.2	25.2	26.0	25.2	26.1	25.9
76°	34.2	34.2	31.8	27.8	24.1	24.3	24.2	24.7	24.1	24.9	24.7
76.5°	32.3	32.4	30.2	26.5	22.9	23.2	23.0	23.5	22.9	23.6	23.5
77°	30.5	30.6	28.5	25.1	21.8	22.3	21.9	22.4	21.8	22.5	22.4
77.5°	28.9	29.0	26.9	23.7	20.6	21.2	20.7	21.2	20.6	21.3	21.2
78°	27.2	27.3	25.4	22.5	19.4	20.3	19.7	20.0	19.3	20.2	20.2
78.5°	25.5	25.7	23.9	21.2	18.4	19.2	18.5	18.8	18.2	19.0	19.0
79°	24.0	24.1	22.4	20.0	17.3	18.2	17.4	17.7	17.0	17.8	17.9
79.5°	22.4	22.6	20.9	18.8	16.3	17.2	16.4	16.5	16.0	16.6	16.7
80°	20.8	21.0	19.4	17.5	15.2	16.2	15.3	15.3	14.8	15.4	15.7
80.5°	19.3	19.5	18.1	16.4	14.2	15.2	14.3	14.1	13.7	14.3	14.6
81°	17.9	18.1	16.7	15.2	13.2	14.2	13.2	13.0	12.6	13.1	13.5
81.5°	16.4	16.6	15.3	14.1	12.3	13.2	12.2	11.8	11.5	12.0	12.4
82°	14.9	15.1	14.1	13.0	11.2	12.3	11.1	10.7	10.4	10.9	11.5
82.5°	13.6	13.8	12.8	12.0	10.4	11.3	10.2	9.7	9.2	9.9	10.4
83°	12.2	12.4	11.7	10.9	9.5	10.4	9.2	8.6	8.2	8.7	9.6
83.5°	10.7	10.9	10.4	9.9	8.6	9.5	8.3	7.7	7.1	7.7	8.6
84°	9.4	9.6	9.4	8.8	7.7	8.5	7.5	6.6	6.1	6.6	7.8
84.5°	8.0	8.3	8.3	7.9	6.8	7.6	6.5	5.6	5.0	5.6	6.8
85°	6.7	7.0	7.4	6.9	5.9	6.6	5.6	4.7	4.1	4.6	6.0
85.5°	5.4	5.8	6.3	6.0	5.0	5.7	4.7	4.0	3.5	3.9	5.1
86°	4.4	4.8	5.4	5.0	4.3	4.8	3.9	3.4	2.9	3.3	4.3
86.5°	3.7	4.0	4.4	4.2	3.5	3.9	3.0	2.7	2.4	2.6	3.6
87°	3.0	3.3	3.6	3.3	2.7	3.0	2.3	2.1	1.8	2.1	2.8
87.5°	2.3	2.4	2.7	2.4	2.0	2.2	1.5	1.4	1.3	1.5	2.0
88°	1.7	1.7	1.9	1.6	1.3	1.4	0.7	0.7	0.7	0.8	1.3
88.5°	0.9	0.9	1.1	0.7	0.5	0.6	0.2	0.2	0.3	0.3	0.5



TEST NUMBER: P775803

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P775803

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	442.9	442.9	442.9	442.9	442.9	442.9
0.5°	442.2	443.8	445.5	444.7	445.1	445.7
1°	440.6	443.6	446.6	447.2	448.3	449.1
1.5°	439.0	443.4	447.9	449.6	451.6	452.7
2°	437.4	443.1	448.9	451.9	454.7	456.2
2.5°	435.8	442.8	450.0	454.2	457.8	459.5
3°	434.0	442.4	450.9	456.4	460.8	462.9
3.5°	432.2	442.0	451.9	458.6	463.8	466.2
4°	430.4	441.6	452.7	460.7	466.7	469.3
4.5°	428.5	441.0	453.7	462.7	469.5	472.5
5°	426.6	440.5	454.4	464.7	472.3	475.5
5.5°	424.8	439.8	455.1	466.6	475.0	478.3
6°	422.8	439.2	455.8	468.5	477.5	481.2
6.5°	420.8	438.4	456.3	470.2	479.9	484.0
7°	418.8	437.7	456.9	471.8	482.3	486.7
7.5°	416.7	436.8	457.3	473.4	484.7	489.2
8°	414.6	436.0	457.8	475.0	486.9	491.6
8.5°	412.5	435.1	458.1	476.4	489.0	494.0
9°	410.3	434.1	458.4	477.7	491.0	496.3
9.5°	408.0	433.1	458.6	479.0	493.0	498.5
10°	405.8	432.0	458.7	480.2	494.7	500.5
10.5°	403.5	430.9	458.8	481.3	496.4	502.5
11°	401.2	429.7	458.8	482.3	498.1	504.4
11.5°	398.9	428.5	458.7	483.2	499.7	506.2
12°	396.6	427.2	458.6	484.0	501.0	507.9
12.5°	394.2	425.9	458.5	484.9	502.4	509.5
13°	391.8	424.5	458.2	485.5	503.7	510.8
13.5°	389.2	423.2	457.9	486.1	504.8	512.2
14°	386.7	421.7	457.4	486.7	505.8	513.3
14.5°	384.2	420.2	457.0	487.0	506.7	514.5
15°	381.7	418.7	456.5	487.4	507.6	515.4
15.5°	379.1	417.1	456.0	487.6	508.2	516.4
16°	376.6	415.5	455.2	487.7	508.8	517.1
16.5°	374.0	413.8	454.5	487.7	509.2	517.8
17°	371.3	412.1	453.8	487.6	509.6	518.3
17.5°	368.6	410.4	452.9	487.5	509.9	518.7
18°	366.0	408.6	452.0	487.3	510.0	519.0
18.5°	363.3	406.8	450.9	487.0	510.0	519.2
19°	360.7	404.9	450.0	486.4	510.0	519.2
19.5°	357.8	403.0	448.8	485.9	509.8	519.2
20°	355.1	401.1	447.7	485.4	509.5	519.1
20.5°	352.4	399.1	446.4	484.7	509.0	518.8
21°	349.5	397.0	445.1	483.8	508.5	518.5

TEST NUMBER: P775803

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	341.0	390.7	440.8	480.9	506.3	516.6
23°	338.2	388.5	439.3	479.7	505.4	515.9
23.5°	335.2	386.3	437.6	478.5	504.3	514.9
24°	332.4	384.0	435.9	477.1	503.1	513.9
24.5°	329.3	381.6	434.1	475.7	501.9	512.7
25°	326.4	379.1	432.3	474.1	500.5	511.6
25.5°	323.5	376.6	430.3	472.6	499.1	510.2
26°	320.4	374.1	428.4	470.8	497.5	508.7
26.5°	317.4	371.5	426.3	469.1	495.8	507.1
27°	314.3	368.7	424.2	467.2	494.2	505.6
27.5°	311.2	365.8	421.9	465.2	492.3	503.9
28°	307.9	363.0	419.6	463.2	490.4	502.0
28.5°	304.7	359.9	417.2	461.1	488.3	500.1
29°	301.5	356.8	414.6	458.9	486.3	498.1
29.5°	298.1	353.6	411.9	456.7	484.1	496.0
30°	294.7	350.4	409.1	454.3	481.9	493.9
30.5°	291.3	346.9	406.2	451.9	479.5	491.7
31°	287.8	343.5	403.1	449.3	477.1	489.6
31.5°	284.4	340.0	400.0	446.8	474.7	487.5
32°	280.9	336.4	396.7	444.1	472.0	485.4
32.5°	277.2	332.6	393.2	441.4	469.5	482.9
33°	273.6	328.9	389.8	438.6	466.9	480.0
33.5°	270.1	325.1	386.1	435.8	464.3	476.6
34°	266.4	321.1	382.3	432.8	461.9	471.2
34.5°	262.6	317.1	378.5	429.8	459.2	466.5
35°	258.9	313.0	374.5	426.6	456.1	459.2
35.5°	255.3	308.6	370.3	423.5	452.7	452.5
36°	251.4	304.3	366.1	420.1	448.2	446.0
36.5°	247.6	299.7	361.8	416.8	442.7	437.6
37°	243.8	295.1	357.2	413.3	437.5	430.7
37.5°	239.9	290.2	352.5	409.7	430.1	422.4
38°	236.0	285.3	347.4	406.0	423.9	413.8
38.5°	231.8	280.4	342.2	402.2	416.9	406.0
39°	227.8	275.3	336.9	398.5	408.8	396.8
39.5°	223.8	270.3	331.3	394.7	402.5	388.8
40°	219.7	265.1	325.4	390.7	394.2	380.1
40.5°	215.6	259.9	319.6	386.5	386.2	370.4
41°	211.4	254.5	313.6	382.6	378.8	362.5
41.5°	207.3	249.5	307.6	378.6	370.1	353.0
42°	203.2	244.1	301.4	374.4	362.3	344.4
42.5°	199.0	238.6	295.2	370.1	354.0	335.7
43°	194.9	233.3	288.8	365.5	345.2	326.0
43.5°	190.7	227.9	282.4	360.4	337.7	318.4



TEST NUMBER: P775803

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	178.3	211.6	262.7	341.4	312.7	292.2
45.5°	174.1	206.3	256.2	333.4	303.6	283.0
46°	169.9	200.9	249.5	326.1	296.3	276.0
46.5°	165.8	195.6	242.9	318.4	287.8	266.9
47°	161.8	190.3	236.2	309.7	280.1	259.5
47.5°	157.8	184.8	229.5	301.9	272.3	251.8
48°	153.7	179.6	222.9	293.4	263.6	243.2
48.5°	149.7	174.4	216.4	284.7	257.0	237.0
49°	145.9	169.2	209.8	276.8	248.6	228.2
49.5°	142.1	164.1	203.1	267.9	241.9	222.4
50°	138.1	159.1	196.6	259.6	234.8	214.9
50.5°	134.1	154.1	190.1	251.5	226.8	208.1
51°	130.4	149.2	183.7	243.0	220.7	202.1
51.5°	126.7	144.4	177.5	235.3	212.7	194.4
52°	123.1	139.9	171.4	227.0	207.1	189.6
52.5°	119.3	135.3	165.3	219.1	200.3	182.4
53°	115.8	130.8	159.2	211.7	193.8	177.5
53.5°	112.3	126.5	153.6	203.8	187.9	171.7
54°	108.9	122.4	148.0	196.7	180.9	165.9
54.5°	105.6	118.5	142.6	189.3	175.9	161.2
55°	102.2	114.5	137.3	182.4	169.1	155.3
55.5°	99.1	110.8	132.4	175.7	164.4	151.3
56°	96.0	107.1	127.6	168.8	158.3	145.4
56.5°	93.0	103.7	122.9	162.8	153.3	141.8
57°	90.3	100.3	118.4	156.4	148.2	136.8
57.5°	87.4	96.9	114.2	150.6	142.8	132.9
58°	84.7	93.7	110.1	144.5	138.4	128.7
58.5°	82.0	90.7	106.1	139.1	133.1	124.5
59°	79.1	87.7	102.5	133.8	129.3	120.8
59.5°	76.6	84.8	98.9	128.5	124.3	116.6
60°	74.2	82.1	95.4	123.6	120.7	113.0
60.5°	71.9	79.3	92.1	118.6	116.0	109.2
61°	69.6	76.7	88.8	114.2	112.7	105.6
61.5°	67.4	74.3	85.7	109.6	108.3	102.2
62°	65.2	71.9	82.8	105.6	105.1	99.0
62.5°	63.1	69.5	80.0	101.5	101.1	95.6
63°	61.1	67.1	77.2	97.6	97.9	92.7
63.5°	59.1	64.9	74.5	93.8	94.4	89.5
64°	57.2	62.8	71.9	90.4	91.3	86.8
64.5°	55.4	60.7	69.5	86.8	87.9	83.8
65°	53.6	58.7	67.0	83.5	85.1	81.2
65.5°	51.8	56.7	64.7	80.4	81.9	78.5
66°	50.1	54.9	62.4	77.3	79.3	76.0



TEST NUMBER: P775803

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	45.3	49.4	56.1	68.9	71.0	68.4
68°	43.8	47.6	54.0	66.3	68.6	66.1
68.5°	42.3	45.9	52.1	63.8	66.1	63.8
69°	40.9	44.3	50.2	61.4	63.7	61.5
69.5°	39.5	42.8	48.3	59.0	61.4	59.3
70°	38.1	41.2	46.6	56.6	59.0	57.2
70.5°	36.8	39.6	44.8	54.4	56.7	55.0
71°	35.5	38.0	43.1	52.2	54.5	52.9
71.5°	34.3	36.7	41.4	50.1	52.4	50.9
72°	33.0	35.3	39.7	48.0	50.3	48.9
72.5°	31.7	33.9	38.1	46.1	48.2	46.9
73°	30.6	32.7	36.7	44.1	46.3	44.9
73.5°	29.4	31.3	35.2	42.1	44.2	43.0
74°	28.4	29.9	33.7	40.4	42.3	41.1
74.5°	27.2	28.7	32.3	38.5	40.5	39.2
75°	26.3	27.4	30.8	36.8	38.6	37.7
75.5°	25.3	26.2	29.4	35.1	36.9	35.9
76°	24.4	24.9	28.0	33.4	35.1	34.2
76.5°	23.3	23.7	26.7	31.7	33.4	32.3
77°	22.4	22.6	25.3	30.1	31.6	30.5
77.5°	21.3	21.4	24.1	28.5	29.9	28.9
78°	20.3	20.3	22.8	26.9	28.3	27.2
78.5°	19.3	19.2	21.4	25.3	26.7	25.5
79°	18.3	18.1	20.3	23.7	25.0	24.0
79.5°	17.2	17.0	19.0	22.3	23.4	22.4
80°	16.3	16.0	17.9	20.8	21.9	20.8
80.5°	15.2	14.9	16.7	19.4	20.4	19.3
81°	14.2	14.0	15.6	18.1	18.8	17.9
81.5°	13.2	12.9	14.4	16.7	17.3	16.4
82°	12.3	12.0	13.2	15.3	15.9	14.9
82.5°	11.3	11.0	12.2	14.1	14.5	13.6
83°	10.4	10.1	11.1	12.8	13.1	12.2
83.5°	9.5	9.1	10.1	11.7	11.7	10.7
84°	8.5	8.3	9.0	10.5	10.3	9.4
84.5°	7.6	7.4	8.1	9.4	9.0	8.0
85°	6.6	6.5	7.0	8.3	7.9	6.7
85.5°	5.7	5.7	6.1	7.3	6.7	5.4
86°	4.7	4.8	5.1	6.3	5.7	4.4
86.5°	3.9	4.0	4.2	5.3	4.7	3.7
87°	3.0	3.2	3.4	4.3	3.9	3.0
87.5°	2.2	2.4	2.5	3.5	3.0	2.3
88°	1.4	1.6	1.7	2.6	2.2	1.7
88.5°	0.6	0.8	0.7	1.8	1.5	0.9



TEST NUMBER: P775803

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQH-HCD6TSQLWW-1000lm-4000K

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

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21.5°	518.0	511.8	489.3	452.2	401.4	351.8	310.3	287.3	280.1	287.1	309.4
22°	517.3	511.1	488.4	450.9	399.4	349.2	307.0	283.8	276.6	283.6	306.1



44°	309.0	329.7	360.0	288.9	228.9	191.0	161.8	143.1	136.8	143.8	162.6
44.5°	300.8	321.9	352.8	282.2	223.4	186.8	158.6	140.1	133.8	140.8	159.3



66.5°	73.3	75.0	72.7	60.6	52.4	48.4	47.0	48.5	47.5	48.9	47.9
67°	70.9	72.2	69.9	58.4	50.5	46.8	45.7	47.2	46.1	47.5	46.7



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



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21.5°	346.7	395.0	443.7	483.0	507.9	518.0
22°	343.8	392.9	442.3	482.0	507.1	517.3

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44°	186.5	222.6	275.7	354.3	328.7	309.0
44.5°	182.5	217.2	269.2	347.6	320.8	300.8



66.5°	48.4	53.0	60.3	74.5	76.3	73.3
67°	46.9	51.2	58.1	71.6	73.9	70.9

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89°	0.1	0.2	0.2	0.9	0.6	0.3
89.5°	0.0	0.0	0.0	0.2	0.1	0.0

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(END OF REPORT)