

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: P775900

Luminaire Tested: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775900  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B027)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K  
Description: 8 INCH SQUARE MEDIUM LENSED WALLWASH KIT  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

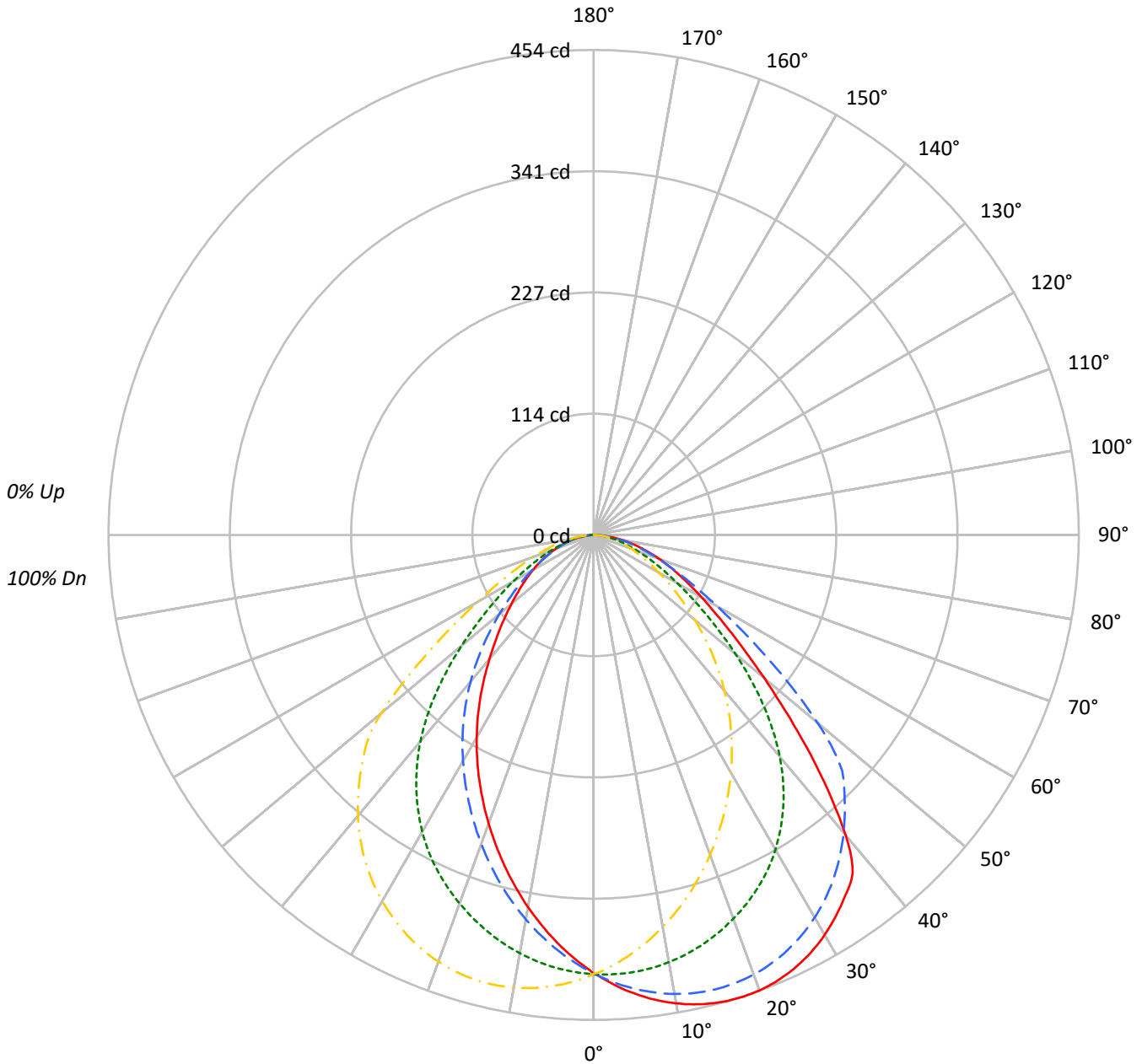
Lumens per Lamp: N/A  
Luminaire Lumens: 895.0 lumens  
Efficiency: N/A  
Efficacy: 89.5 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.2 / 1.3  
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')  
CIE Type: Direct

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									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	101	98	100	97	94	96	94	92	92	91	89	87																			
2	102	94	88	83	99	92	87	82	89	84	80	86	82	79	83	80	77	75																			
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	75	70	67	65																			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57																			
5	80	68	60	54	78	67	59	54	65	58	53	63	57	52	61	56	52	50																			
6	74	62	54	48	72	61	53	47	59	52	47	58	51	47	56	51	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	47	42	51	46	42	40																			
8	64	52	44	38	63	51	43	38	50	43	38	49	42	38	47	42	38	36																			
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34	32																			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30																			

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

	0°	90°	180°	270°
0°	9848	9848	9848	9848
5°	10367	9893	9240	9789
10°	10842	9888	8612	9681
15°	11248	9840	7971	9540
20°	11577	9755	7334	9365
25°	11824	9630	6699	9162
30°	11969	9417	6061	8882
35°	12037	9057	5401	8468
40°	11478	8476	4748	7894
45°	9590	7593	4195	7060
50°	7778	6461	3745	6017
55°	6442	5301	3403	5000
60°	5582	4350	3146	4167
65°	4999	3631	2899	3512
70°	4550	3064	2622	2973
75°	4141	2576	2381	2511
80°	3715	2127	2085	2057
85°	3026	1651	1348	1513

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 11241 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.7	4.3
10°-20°	109.6	12.2
20°-30°	162.0	18.1
30°-40°	186.8	20.9
40°-50°	170.0	19.0
50°-60°	116.4	13.0
60°-70°	68.3	7.6
70°-80°	34.5	3.9
80°-90°	8.6	1.0
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°	310.3	34.7
0°-40°	497.1	55.5
0°-60°	783.5	87.5
0°-90°	895.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	895.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	411	411	411	411	411	
5°	431	411	384	407	431	42
15°	453	396	321	384	453	128
25°	447	364	253	346	447	206
35°	411	309	184	289	411	256
45°	283	224	124	208	283	218
55°	154	127	81	120	154	140
65°	88	64	51	62	88	88
75°	45	28	26	27	45	48
85°	11	6	5	6	11	13
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°	410.7	410.7	410.7	410.7	410.7	410.7	410.7	410.7	410.7	410.7	410.7
0.5°	412.3	412.4	412.4	411.9	411.4	410.7	410.1	407.7	407.6	407.8	408.7
1°	414.6	414.5	414.1	413.0	411.5	409.9	408.6	405.5	405.1	405.5	406.8
1.5°	416.8	416.7	415.7	413.9	411.7	409.1	407.0	403.3	402.7	403.1	404.9
2°	418.9	418.8	417.4	414.9	411.7	408.2	405.3	401.0	400.1	400.6	402.9
2.5°	421.1	420.8	419.0	415.8	411.7	407.3	403.6	398.7	397.5	398.2	400.9
3°	423.1	422.7	420.6	416.7	411.7	406.4	401.9	396.2	394.9	395.7	398.8
3.5°	425.1	424.6	422.1	417.5	411.6	405.4	400.1	393.8	392.2	393.1	396.7
4°	427.1	426.5	423.5	418.2	411.5	404.3	398.2	391.4	389.5	390.5	394.5
4.5°	428.9	428.3	424.8	418.9	411.3	403.3	396.4	388.9	386.7	387.8	392.3
5°	430.7	430.0	426.2	419.6	411.0	402.1	394.4	386.2	383.9	385.1	390.0
5.5°	432.5	431.7	427.5	420.2	410.7	401.0	392.4	383.7	381.0	382.4	387.7
6°	434.2	433.3	428.7	420.7	410.4	399.7	390.4	381.0	378.1	379.6	385.4
6.5°	435.8	434.8	429.8	421.2	410.0	398.5	388.3	378.4	375.3	376.8	383.1
7°	437.4	436.4	430.9	421.6	409.6	397.1	386.2	375.6	372.2	373.9	380.6
7.5°	438.9	437.8	432.0	422.1	409.1	395.8	384.0	372.8	369.3	371.1	378.2
8°	440.3	439.2	433.0	422.4	408.6	394.4	381.8	370.0	366.2	368.1	375.7
8.5°	441.6	440.5	433.9	422.7	408.1	392.9	379.5	367.2	363.1	365.2	373.2
9°	442.9	441.7	434.7	422.9	407.5	391.5	377.3	364.4	360.0	362.1	370.6
9.5°	444.2	442.9	435.6	423.1	406.8	389.9	375.0	361.5	356.9	359.2	368.1
10°	445.3	444.0	436.3	423.2	406.1	388.3	372.6	358.5	353.7	356.1	365.5
10.5°	446.4	445.0	437.0	423.3	405.3	386.7	370.2	355.6	350.6	353.0	362.8
11°	447.5	446.0	437.6	423.3	404.5	385.0	367.7	352.6	347.4	350.0	360.1
11.5°	448.4	446.9	438.2	423.3	403.7	383.3	365.3	349.6	344.2	346.8	357.3
12°	449.3	447.7	438.7	423.2	402.8	381.6	362.8	346.6	340.9	343.7	354.6
12.5°	450.1	448.5	439.1	423.1	401.9	379.8	360.3	343.5	337.7	340.6	351.9
13°	450.9	449.2	439.5	422.9	400.9	378.0	357.7	340.4	334.4	337.3	349.1
13.5°	451.5	449.8	439.8	422.6	399.8	376.1	355.1	337.3	331.1	334.1	346.3
14°	452.1	450.4	440.1	422.3	398.7	374.2	352.4	334.1	327.8	330.9	343.4
14.5°	452.7	450.9	440.3	422.0	397.6	372.3	349.8	331.0	324.5	327.7	340.5
15°	453.1	451.3	440.4	421.6	396.4	370.2	347.1	327.7	321.1	324.4	337.6
15.5°	453.5	451.7	440.5	421.1	395.2	368.2	344.4	324.6	317.8	321.2	334.7
16°	453.8	452.0	440.4	420.6	393.9	366.1	341.6	321.4	314.4	317.9	331.8
16.5°	454.1	452.2	440.3	420.0	392.7	364.0	338.8	318.2	311.1	314.7	328.9
17°	454.2	452.3	440.2	419.4	391.3	361.9	336.0	314.9	307.7	311.3	325.8
17.5°	454.3	452.3	440.0	418.7	389.9	359.7	333.1	311.7	304.3	308.1	322.9
18°	454.4	452.4	439.7	418.0	388.5	357.5	330.3	308.5	300.9	304.6	319.9
18.5°	454.3	452.3	439.4	417.2	387.0	355.3	327.4	305.2	297.5	301.4	316.8
19°	454.2	452.1	439.0	416.3	385.4	353.0	324.5	301.9	294.1	298.1	313.8
19.5°	454.0	451.9	438.5	415.4	383.9	350.7	321.6	298.7	290.8	294.8	310.8
20°	453.7	451.6	438.0	414.5	382.3	348.4	318.7	295.4	287.4	291.4	307.6
20.5°	453.4	451.3	437.4	413.5	380.7	346.0	315.7	292.1	283.9	288.0	304.5
21°	452.9	450.8	436.7	412.5	379.0	343.7	312.7	288.7	280.5	284.7	301.5



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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°	451.2	449.0	434.3	409.0	373.8	336.3	303.6	278.9	270.3	274.7	292.1
23°	450.5	448.3	433.4	407.7	371.9	333.8	300.6	275.5	266.9	271.3	289.0
23.5°	449.7	447.5	432.4	406.4	370.0	331.3	297.6	272.1	263.5	268.0	285.9
24°	448.8	446.6	431.4	405.1	368.1	328.7	294.5	268.8	260.1	264.6	282.7
24.5°	447.9	445.6	430.2	403.7	366.1	326.1	291.4	265.5	256.6	261.3	279.5
25°	446.9	444.6	429.0	402.2	364.0	323.5	288.3	262.2	253.2	257.9	276.4
25.5°	445.7	443.5	427.7	400.6	361.9	320.7	285.2	258.9	249.9	254.5	273.3
26°	444.5	442.3	426.5	399.1	359.8	318.0	282.1	255.5	246.4	251.2	270.0
26.5°	443.3	441.0	425.1	397.4	357.6	315.3	279.0	252.1	242.9	247.8	266.9
27°	442.0	439.7	423.6	395.8	355.3	312.5	275.8	248.7	239.5	244.5	263.7
27.5°	440.6	438.3	422.1	394.0	352.9	309.7	272.7	245.4	236.2	241.0	260.5
28°	439.0	436.8	420.5	392.1	350.5	306.8	269.5	242.1	232.7	237.7	257.3
28.5°	437.5	435.2	418.9	390.2	348.0	303.9	266.4	238.7	229.2	234.3	254.2
29°	435.8	433.5	417.2	388.3	345.5	300.9	263.2	235.3	225.8	230.9	250.9
29.5°	434.1	431.8	415.5	386.3	342.8	298.0	260.0	232.0	222.4	227.5	247.7
30°	432.3	430.1	413.6	384.2	340.1	294.9	256.8	228.5	218.9	224.1	244.5
30.5°	430.5	428.2	411.7	382.0	337.3	291.8	253.7	225.2	215.4	220.7	241.3
31°	428.5	426.3	409.8	379.7	334.5	288.6	250.4	221.7	212.0	217.4	238.1
31.5°	426.5	424.3	407.8	377.4	331.6	285.5	247.1	218.4	208.6	214.0	234.9
32°	424.5	422.3	405.7	374.9	328.6	282.3	243.9	215.0	205.2	210.6	231.7
32.5°	422.3	420.1	403.5	372.4	325.5	278.9	240.6	211.6	201.7	207.2	228.5
33°	420.2	418.0	401.3	369.9	322.4	275.6	237.4	208.1	198.3	203.8	225.3
33.5°	418.0	415.7	399.0	367.2	319.3	272.3	234.1	204.9	194.8	200.4	222.1
34°	415.7	413.5	396.8	364.5	316.0	269.0	230.8	201.4	191.3	197.0	218.7
34.5°	413.4	411.1	394.3	361.7	312.7	265.6	227.5	197.9	187.9	193.6	215.5
35°	411.2	408.7	391.9	358.8	309.4	262.2	224.2	194.5	184.5	190.3	212.3
35.5°	409.0	406.3	389.3	355.7	305.9	258.7	220.8	191.2	181.1	186.9	209.0
36°	406.9	403.8	386.8	352.7	302.4	255.4	217.5	187.8	177.7	183.5	205.7
36.5°	404.5	401.4	384.2	349.5	298.7	251.9	214.2	184.3	174.3	180.1	202.4
37°	401.7	399.0	381.4	346.3	295.1	248.3	210.8	180.9	171.0	176.7	199.0
37.5°	398.2	396.6	378.7	343.1	291.3	244.7	207.3	177.6	167.7	173.4	195.7
38°	393.1	394.3	375.8	339.7	287.3	241.2	204.0	174.2	164.4	170.1	192.4
38.5°	387.8	391.6	372.9	336.2	283.4	237.6	200.5	170.8	161.2	166.7	189.1
39°	381.4	388.6	370.0	332.5	279.3	234.0	197.1	167.5	158.0	163.5	185.8
39.5°	374.3	384.3	367.0	328.9	275.2	230.3	193.7	164.2	154.8	160.2	182.4
40°	366.7	379.6	363.9	325.1	270.8	226.6	190.3	160.9	151.7	157.0	179.1
40.5°	358.4	373.6	360.9	321.1	266.5	223.0	186.9	157.6	148.7	153.8	175.8
41°	350.5	367.4	357.7	316.9	262.1	219.2	183.4	154.5	145.7	150.8	172.4
41.5°	341.9	359.6	354.5	312.7	257.6	215.5	180.0	151.3	142.8	147.6	169.0
42°	333.7	352.5	351.2	308.2	253.0	211.7	176.6	148.2	139.9	144.6	165.7
42.5°	325.1	344.3	347.9	303.6	248.3	208.0	173.2	145.1	137.1	141.6	162.4
43°	316.6	336.7	344.7	298.8	243.6	204.2	169.8	142.1	134.3	138.7	159.1
43.5°	307.9	328.2	341.3	294.2	238.8	200.2	166.4	139.0	131.5	135.7	155.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	282.8	303.5	331.5	278.5	223.9	188.8	156.2	130.4	123.7	127.4	145.9
45.5°	274.1	295.0	328.2	273.2	218.9	184.9	152.8	127.6	121.1	124.7	142.7
46°	266.5	287.0	324.4	267.7	213.9	181.1	149.4	124.8	118.7	122.0	139.4
46.5°	258.0	278.4	320.5	262.0	208.8	177.2	146.1	122.1	116.2	119.4	136.2
47°	250.9	270.8	314.9	256.2	203.7	173.4	142.7	119.5	113.8	116.9	133.1
47.5°	242.5	262.4	309.6	250.2	198.4	169.5	139.4	117.0	111.5	114.4	130.0
48°	235.9	255.1	302.8	244.1	193.5	165.7	136.1	114.3	109.2	112.0	127.0
48.5°	228.0	246.7	296.4	238.0	188.3	161.9	132.8	111.8	106.9	109.6	123.9
49°	221.8	239.9	288.7	231.9	183.2	158.1	129.6	109.4	104.7	107.2	120.9
49.5°	214.3	232.0	281.5	225.7	178.2	154.3	126.4	107.0	102.6	104.9	118.0
50°	208.5	225.5	273.3	219.5	173.2	150.5	123.2	104.6	100.4	102.6	115.1
50.5°	201.5	218.2	265.4	213.1	168.0	146.7	120.1	102.3	98.3	100.4	112.2
51°	196.0	211.7	257.2	206.7	163.2	143.0	117.1	100.0	96.4	98.3	109.4
51.5°	189.5	204.9	249.3	200.3	158.3	139.4	114.1	97.7	94.4	96.1	106.7
52°	184.3	198.8	240.9	194.1	153.5	135.7	111.1	95.6	92.4	94.0	104.0
52.5°	178.5	192.6	233.2	187.9	148.7	132.0	108.2	93.4	90.4	92.0	101.3
53°	173.6	186.7	225.1	181.6	144.2	128.4	105.4	91.3	88.5	89.9	98.7
53.5°	168.2	180.9	217.5	175.4	139.6	124.9	102.6	89.2	86.7	88.0	96.1
54°	163.4	175.2	209.6	169.3	135.2	121.4	99.8	87.3	84.9	86.1	93.7
54.5°	158.6	170.0	202.2	163.4	130.8	117.9	97.1	85.4	83.2	84.3	91.2
55°	154.1	164.5	194.9	157.5	126.8	114.5	94.5	83.4	81.4	82.4	88.8
55.5°	149.8	160.2	187.6	151.9	122.6	111.1	91.9	81.5	79.7	80.6	86.4
56°	145.4	154.7	180.9	146.4	118.6	107.8	89.3	79.6	77.9	78.8	84.2
56.5°	141.6	150.8	174.0	141.1	114.7	104.6	86.9	77.7	76.4	77.0	82.0
57°	137.2	145.7	167.8	135.9	111.0	101.4	84.5	76.1	74.8	75.3	79.8
57.5°	133.9	142.1	161.2	131.0	107.3	98.3	82.2	74.4	73.2	73.6	77.6
58°	129.8	137.4	155.3	126.1	103.8	95.3	79.8	72.7	71.6	71.9	75.4
58.5°	126.8	133.7	149.5	121.6	100.4	92.3	77.5	71.0	70.0	70.3	73.3
59°	122.8	129.6	143.8	117.2	97.0	89.4	75.1	69.3	68.5	68.7	71.2
59.5°	120.1	126.0	138.6	113.0	93.8	86.7	72.9	67.7	67.0	67.1	69.2
60°	116.4	122.2	133.2	108.9	90.7	84.0	70.7	66.1	65.6	65.6	67.2
60.5°	113.4	118.4	128.6	105.0	87.6	81.3	68.7	64.5	64.1	64.1	65.3
61°	110.2	115.2	123.4	101.2	84.8	78.6	66.6	62.9	62.7	62.6	63.4
61.5°	107.2	111.4	119.2	97.7	82.0	75.9	64.5	61.4	61.3	61.2	61.6
62°	104.3	108.5	114.7	94.3	79.1	73.3	62.6	60.0	59.9	59.7	59.7
62.5°	101.4	105.1	110.3	91.0	76.3	70.9	60.7	58.5	58.4	58.3	58.0
63°	98.6	102.1	106.5	87.8	73.8	68.4	58.8	57.1	56.9	56.9	56.3
63.5°	95.9	99.0	102.5	84.8	71.2	66.1	56.9	55.7	55.5	55.5	54.6
64°	93.3	95.9	98.9	81.7	68.8	63.8	55.1	54.3	54.0	54.1	53.0
64.5°	90.6	93.2	95.3	78.9	66.4	61.6	53.4	52.9	52.5	52.6	51.4
65°	88.1	90.3	91.7	76.2	64.0	59.4	51.7	51.5	51.1	51.2	49.8
65.5°	85.6	87.7	88.6	73.5	61.7	57.3	50.1	50.0	49.7	49.8	48.3
66°	83.1	85.0	85.3	70.9	59.5	55.2	48.5	48.6	48.3	48.5	46.8





TEST NUMBER: P775900

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	76.0	77.2	76.4	63.6	53.2	49.2	43.9	44.6	44.2	44.5	42.6
68°	73.8	74.8	73.6	61.4	51.2	47.4	42.5	43.3	42.8	43.2	41.3
68.5°	71.5	72.4	71.0	59.2	49.3	45.6	41.1	42.1	41.5	41.9	39.9
69°	69.3	70.1	68.3	57.0	47.4	43.8	39.7	40.8	40.1	40.6	38.6
69.5°	67.2	67.8	65.8	54.9	45.5	42.0	38.4	39.5	38.8	39.4	37.4
70°	64.9	65.5	63.4	52.8	43.7	40.3	37.1	38.3	37.4	38.1	36.1
70.5°	62.8	63.2	61.0	50.8	41.9	38.7	35.9	37.1	36.2	36.9	34.9
71°	60.7	61.0	58.7	48.9	40.2	37.2	34.6	35.8	34.8	35.6	33.7
71.5°	58.6	58.9	56.4	47.0	38.5	35.6	33.4	34.6	33.6	34.3	32.5
72°	56.6	56.8	54.2	45.1	36.9	34.0	32.2	33.3	32.4	33.1	31.4
72.5°	54.6	54.7	52.1	43.2	35.3	32.6	31.0	32.1	31.3	31.9	30.3
73°	52.6	52.7	50.0	41.5	33.7	31.1	29.9	30.9	30.2	30.8	29.2
73.5°	50.5	50.6	47.9	39.7	32.2	29.7	28.8	29.8	29.0	29.6	28.1
74°	48.6	48.6	45.9	38.0	30.7	28.3	27.7	28.7	27.9	28.5	27.0
74.5°	46.7	46.6	43.9	36.3	29.3	27.0	26.6	27.5	26.8	27.3	25.9
75°	44.7	44.7	42.0	34.8	27.8	25.7	25.6	26.5	25.7	26.2	24.8
75.5°	42.9	42.8	40.1	33.2	26.4	24.4	24.5	25.3	24.6	25.1	23.8
76°	41.0	40.9	38.3	31.7	25.1	23.2	23.5	24.2	23.5	24.0	22.7
76.5°	39.1	39.0	36.5	30.1	23.8	22.0	22.5	23.1	22.5	22.9	21.6
77°	37.3	37.2	34.8	28.6	22.5	20.8	21.5	22.0	21.4	21.8	20.7
77.5°	35.6	35.4	33.1	27.1	21.2	19.7	20.4	20.9	20.4	20.7	19.6
78°	33.9	33.7	31.4	25.6	20.0	18.6	19.4	19.8	19.3	19.6	18.6
78.5°	32.1	32.0	29.7	24.2	18.8	17.5	18.4	18.8	18.3	18.6	17.6
79°	30.4	30.2	28.0	22.8	17.7	16.5	17.5	17.7	17.2	17.5	16.6
79.5°	28.6	28.5	26.3	21.4	16.5	15.5	16.5	16.6	16.2	16.5	15.6
80°	26.9	26.8	24.7	20.1	15.4	14.5	15.5	15.5	15.1	15.5	14.6
80.5°	25.2	25.1	23.1	18.7	14.3	13.6	14.6	14.4	14.1	14.4	13.6
81°	23.6	23.5	21.6	17.5	13.3	12.7	13.6	13.3	13.1	13.4	12.7
81.5°	21.9	21.8	20.1	16.2	12.3	11.8	12.6	12.2	12.0	12.3	11.7
82°	20.3	20.3	18.6	15.0	11.3	10.9	11.6	11.2	11.0	11.3	10.8
82.5°	18.7	18.7	17.1	13.8	10.3	10.1	10.7	10.1	10.0	10.3	9.8
83°	17.1	17.1	15.7	12.6	9.5	9.3	9.7	9.1	8.9	9.2	8.9
83.5°	15.5	15.6	14.2	11.4	8.6	8.5	8.8	8.0	7.9	8.2	8.0
84°	14.0	14.1	12.8	10.4	7.7	7.7	7.9	7.0	6.9	7.2	7.1
84.5°	12.5	12.6	11.5	9.3	6.8	6.9	7.1	6.0	5.9	6.2	6.3
85°	11.0	11.1	10.2	8.3	6.0	6.1	6.2	4.9	4.9	5.1	5.4
85.5°	9.5	9.6	9.0	7.2	5.1	5.3	5.3	4.0	3.9	4.2	4.6
86°	8.0	8.2	7.8	6.3	4.3	4.6	4.5	3.2	3.1	3.3	3.8
86.5°	6.5	6.8	6.7	5.3	3.6	3.8	3.7	2.5	2.4	2.6	3.0
87°	5.1	5.5	5.5	4.4	2.9	3.0	2.9	1.8	1.8	2.0	2.3
87.5°	4.1	4.4	4.4	3.4	2.2	2.3	2.2	1.2	1.2	1.3	1.5
88°	3.3	3.4	3.4	2.6	1.5	1.6	1.4	0.6	0.6	0.7	0.8
88.5°	2.5	2.6	2.6	1.8	0.9	0.8	0.7	0.2	0.2	0.2	0.2



TEST NUMBER: P775900

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P775900

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	410.7	410.7	410.7	410.7	410.7	410.7
0.5°	409.7	411.0	412.0	413.1	411.9	412.3
1°	408.5	410.7	412.6	414.5	413.9	414.6
1.5°	407.3	410.3	413.2	415.8	415.8	416.8
2°	406.0	410.0	413.7	417.1	417.7	418.9
2.5°	404.7	409.5	414.2	418.4	419.6	421.1
3°	403.3	409.1	414.6	419.5	421.5	423.1
3.5°	401.9	408.5	414.9	420.7	423.2	425.1
4°	400.5	408.0	415.2	421.8	424.9	427.1
4.5°	399.0	407.4	415.5	422.8	426.5	428.9
5°	397.4	406.7	415.7	423.7	428.1	430.7
5.5°	395.9	406.0	415.9	424.6	429.5	432.5
6°	394.3	405.3	416.0	425.5	431.0	434.2
6.5°	392.6	404.5	416.0	426.3	432.4	435.8
7°	390.9	403.6	416.0	427.1	433.7	437.4
7.5°	389.1	402.8	416.0	427.7	435.0	438.9
8°	387.3	401.8	415.9	428.3	436.2	440.3
8.5°	385.5	400.9	415.8	428.9	437.3	441.6
9°	383.7	399.8	415.5	429.4	438.4	442.9
9.5°	381.8	398.8	415.3	429.8	439.4	444.2
10°	379.8	397.6	415.0	430.2	440.3	445.3
10.5°	377.9	396.5	414.7	430.5	441.2	446.4
11°	375.9	395.3	414.3	430.8	442.0	447.5
11.5°	373.8	394.1	413.8	431.0	442.7	448.4
12°	371.7	392.8	413.3	431.2	443.4	449.3
12.5°	369.6	391.5	412.8	431.3	444.0	450.1
13°	367.5	390.1	412.1	431.3	444.5	450.9
13.5°	365.3	388.7	411.5	431.2	445.0	451.5
14°	363.1	387.3	410.8	431.1	445.4	452.1
14.5°	360.8	385.8	410.0	431.0	445.7	452.7
15°	358.5	384.3	409.2	430.7	445.9	453.1
15.5°	356.2	382.7	408.3	430.4	446.1	453.5
16°	353.9	381.1	407.4	430.1	446.3	453.8
16.5°	351.5	379.5	406.5	429.7	446.3	454.1
17°	349.1	377.8	405.5	429.2	446.3	454.2
17.5°	346.6	376.1	404.4	428.7	446.2	454.3
18°	344.2	374.3	403.3	428.1	446.0	454.4
18.5°	341.7	372.5	402.2	427.4	445.8	454.3
19°	339.2	370.7	401.0	426.7	445.5	454.2
19.5°	336.7	368.9	399.7	425.9	445.1	454.0
20°	334.1	367.0	398.5	425.1	444.6	453.7
20.5°	331.5	365.1	397.1	424.2	444.1	453.4
21°	328.9	363.1	395.7	423.1	443.5	452.9



TEST NUMBER: P775900

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	321.0	357.1	391.3	419.9	441.3	451.2
23°	318.3	355.0	389.8	418.7	440.4	450.5
23.5°	315.6	352.9	388.2	417.4	439.5	449.7
24°	312.9	350.8	386.6	416.1	438.5	448.8
24.5°	310.1	348.6	384.9	414.7	437.4	447.9
25°	307.4	346.3	383.2	413.3	436.2	446.9
25.5°	304.6	344.0	381.4	411.8	434.9	445.7
26°	301.8	341.7	379.6	410.2	433.7	444.5
26.5°	298.9	339.3	377.7	408.6	432.3	443.3
27°	296.1	336.9	375.8	406.9	430.8	442.0
27.5°	293.2	334.4	373.8	405.2	429.3	440.6
28°	290.3	331.8	371.7	403.4	427.7	439.0
28.5°	287.2	329.2	369.6	401.6	426.0	437.5
29°	284.3	326.5	367.4	399.7	424.3	435.8
29.5°	281.2	323.7	365.2	397.8	422.4	434.1
30°	278.1	320.8	362.8	395.8	420.6	432.3
30.5°	275.0	317.9	360.3	393.8	418.7	430.5
31°	271.8	315.0	357.9	391.6	416.7	428.5
31.5°	268.7	311.9	355.3	389.5	414.6	426.5
32°	265.5	308.8	352.6	387.3	412.5	424.5
32.5°	262.2	305.7	349.8	385.0	410.3	422.3
33°	259.0	302.5	347.0	382.7	408.0	420.2
33.5°	255.6	299.3	344.1	380.2	405.7	418.0
34°	252.2	295.9	341.1	377.8	403.4	415.7
34.5°	248.9	292.7	338.0	375.3	401.0	413.4
35°	245.7	289.3	334.9	372.7	398.5	411.2
35.5°	242.2	285.9	331.7	370.1	396.0	409.0
36°	238.8	282.3	328.5	367.4	393.5	406.9
36.5°	235.4	278.8	325.1	364.6	390.9	404.5
37°	232.1	275.2	321.7	361.7	388.3	401.7
37.5°	228.6	271.5	318.2	358.8	385.7	398.2
38°	225.2	267.7	314.6	355.8	383.2	393.1
38.5°	221.7	263.9	310.9	352.7	380.7	387.8
39°	218.4	260.1	307.2	349.6	378.3	381.4
39.5°	214.7	256.3	303.2	346.4	375.4	374.3
40°	211.3	252.2	299.3	343.1	372.4	366.7
40.5°	207.8	248.1	295.2	339.8	367.7	358.4
41°	204.3	244.0	290.9	336.5	363.1	350.5
41.5°	200.8	239.8	286.5	333.0	357.1	341.9
42°	197.2	235.5	282.1	329.5	350.9	333.7
42.5°	193.7	231.1	277.5	326.0	343.6	325.1
43°	190.2	226.6	272.7	322.5	336.8	316.6
43.5°	186.6	222.1	267.7	318.8	329.0	307.9



TEST NUMBER: P775900

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	175.9	208.2	251.8	307.5	306.1	282.8
45.5°	172.2	203.4	246.3	303.6	298.1	274.1
46°	168.6	198.7	240.5	299.9	290.4	266.5
46.5°	165.0	194.0	234.8	295.9	282.5	258.0
47°	161.4	189.2	228.9	292.1	274.9	250.9
47.5°	157.9	184.5	223.1	287.8	266.9	242.5
48°	154.2	179.8	217.2	283.4	259.5	235.9
48.5°	150.7	175.1	211.2	278.5	251.8	228.0
49°	147.1	170.5	205.3	272.2	244.7	221.8
49.5°	143.6	166.0	199.4	266.2	237.3	214.3
50°	140.1	161.3	193.5	259.1	230.6	208.5
50.5°	136.5	156.8	187.6	251.9	223.3	201.5
51°	133.1	152.3	181.7	244.4	216.7	196.0
51.5°	129.6	148.0	176.0	236.6	210.1	189.5
52°	126.2	143.6	170.4	228.7	204.0	184.3
52.5°	122.8	139.4	164.9	221.3	197.4	178.5
53°	119.4	135.3	159.3	213.6	191.2	173.6
53.5°	116.2	131.3	154.0	206.1	185.6	168.2
54°	112.9	127.2	148.9	198.5	179.7	163.4
54.5°	109.7	123.4	143.9	191.4	174.4	158.6
55°	106.5	119.6	139.1	184.5	168.5	154.1
55.5°	103.4	116.0	134.3	177.5	163.8	149.8
56°	100.3	112.4	129.7	171.0	158.2	145.4
56.5°	97.4	108.9	125.4	164.5	153.9	141.6
57°	94.4	105.4	121.1	158.4	148.5	137.2
57.5°	91.5	102.1	117.0	152.4	144.5	133.9
58°	88.7	98.9	113.0	146.7	139.6	129.8
58.5°	86.1	95.8	109.3	141.2	135.7	126.8
59°	83.5	92.8	105.7	135.7	131.4	122.8
59.5°	80.9	89.8	102.2	130.9	127.4	120.1
60°	78.3	86.9	98.7	125.9	123.6	116.4
60.5°	75.6	84.0	95.5	121.2	119.8	113.4
61°	73.1	81.3	92.3	116.6	116.4	110.2
61.5°	70.8	78.7	89.3	112.3	112.6	107.2
62°	68.4	76.1	86.4	108.2	109.6	104.3
62.5°	66.1	73.5	83.6	104.3	106.1	101.4
63°	63.8	71.1	80.7	100.5	103.0	98.6
63.5°	61.7	68.7	78.1	96.9	99.9	95.9
64°	59.6	66.3	75.5	93.2	96.7	93.3
64.5°	57.5	64.0	73.0	90.0	93.9	90.6
65°	55.4	61.9	70.5	86.7	90.9	88.1
65.5°	53.4	59.6	68.1	83.7	88.3	85.6
66°	51.5	57.5	65.8	80.6	85.5	83.1



TEST NUMBER: P775900

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	46.0	51.4	59.2	72.4	77.6	76.0
68°	44.3	49.6	57.0	69.6	75.2	73.8
68.5°	42.6	47.7	55.0	67.2	72.8	71.5
69°	41.0	45.9	53.0	64.7	70.3	69.3
69.5°	39.3	44.1	51.1	62.3	68.0	67.2
70°	37.8	42.4	49.2	60.0	65.7	64.9
70.5°	36.2	40.6	47.3	57.7	63.4	62.8
71°	34.7	39.0	45.4	55.5	61.3	60.7
71.5°	33.3	37.3	43.7	53.3	59.1	58.6
72°	31.9	35.9	41.9	51.2	56.9	56.6
72.5°	30.5	34.4	40.2	49.2	54.8	54.6
73°	29.1	32.9	38.5	47.1	52.7	52.6
73.5°	27.8	31.4	36.8	45.2	50.7	50.5
74°	26.5	29.9	35.3	43.3	48.7	48.6
74.5°	25.3	28.5	33.8	41.3	46.7	46.7
75°	24.1	27.1	32.3	39.5	44.7	44.7
75.5°	22.9	25.7	30.7	37.7	42.8	42.9
76°	21.7	24.4	29.2	35.6	41.0	41.0
76.5°	20.6	23.1	27.7	34.0	39.1	39.1
77°	19.6	21.9	26.3	32.4	37.2	37.3
77.5°	18.6	20.6	24.9	30.8	35.4	35.6
78°	17.5	19.4	23.5	29.1	33.7	33.9
78.5°	16.5	18.3	22.2	27.5	32.0	32.1
79°	15.6	17.1	20.8	25.9	30.3	30.4
79.5°	14.7	16.0	19.5	24.3	28.5	28.6
80°	13.8	14.9	18.2	22.7	26.8	26.9
80.5°	12.9	13.9	17.0	21.2	25.1	25.2
81°	12.0	12.8	15.8	19.7	23.5	23.6
81.5°	11.1	11.8	14.6	18.2	21.9	21.9
82°	10.3	10.9	13.4	16.7	20.2	20.3
82.5°	9.4	9.9	12.3	15.3	18.7	18.7
83°	8.6	9.0	11.2	13.9	17.1	17.1
83.5°	7.8	8.1	10.1	12.5	15.6	15.5
84°	7.0	7.2	9.0	11.2	14.0	14.0
84.5°	6.2	6.4	8.0	9.9	12.5	12.5
85°	5.4	5.5	7.0	8.7	11.1	11.0
85.5°	4.6	4.8	6.0	7.6	9.6	9.5
86°	3.8	4.0	5.1	6.4	8.2	8.0
86.5°	3.1	3.3	4.2	5.3	6.9	6.5
87°	2.3	2.6	3.4	4.3	5.7	5.1
87.5°	1.5	1.9	2.6	3.2	4.6	4.1
88°	0.8	1.2	1.8	2.4	3.6	3.3
88.5°	0.2	0.5	1.0	1.6	2.7	2.5



TEST NUMBER: P775900

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQH-HCD8TSQLWW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

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



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Scaled Data Report





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

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21.5°	452.4	450.3	436.0	411.4	377.3	341.2	309.7	285.4	277.2	281.4	298.4
22°	451.9	449.7	435.2	410.2	375.6	338.8	306.7	282.1	273.7	278.1	295.2



44°	299.5	320.0	338.0	289.1	233.9	196.4	163.0	136.2	128.9	132.9	152.4
44.5°	290.9	311.6	334.7	283.9	229.0	192.6	159.6	133.2	126.2	130.1	149.2



66.5°	80.8	82.3	82.2	68.4	57.4	53.1	46.9	47.3	46.9	47.1	45.4
67°	78.4	79.8	79.3	66.0	55.3	51.2	45.4	46.0	45.5	45.8	44.0



89°	1.7	1.7	1.7	1.0	0.3	0.2	0.2	0.1	0.0	0.1	0.1
89.5°	0.9	0.9	0.9	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.0



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21.5°	326.3	361.1	394.3	422.1	442.9	452.4
22°	323.7	359.1	392.8	421.1	442.1	451.9



44°	183.0	217.5	262.6	315.1	321.7	299.5
44.5°	179.5	212.9	257.3	311.3	313.7	290.9

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66.5°	49.7	55.5	63.5	77.8	82.8	80.8
67°	47.8	53.5	61.3	75.0	80.3	78.4

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89°	0.0	0.1	0.2	0.8	1.8	1.7
89.5°	0.0	0.0	0.0	0.1	1.0	0.9

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(END OF REPORT)