

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: P838391

Luminaire Tested: HCSQ615D010-HM60525840-61SQLWW

Issue Date: 5/21/2024

**Test Information**

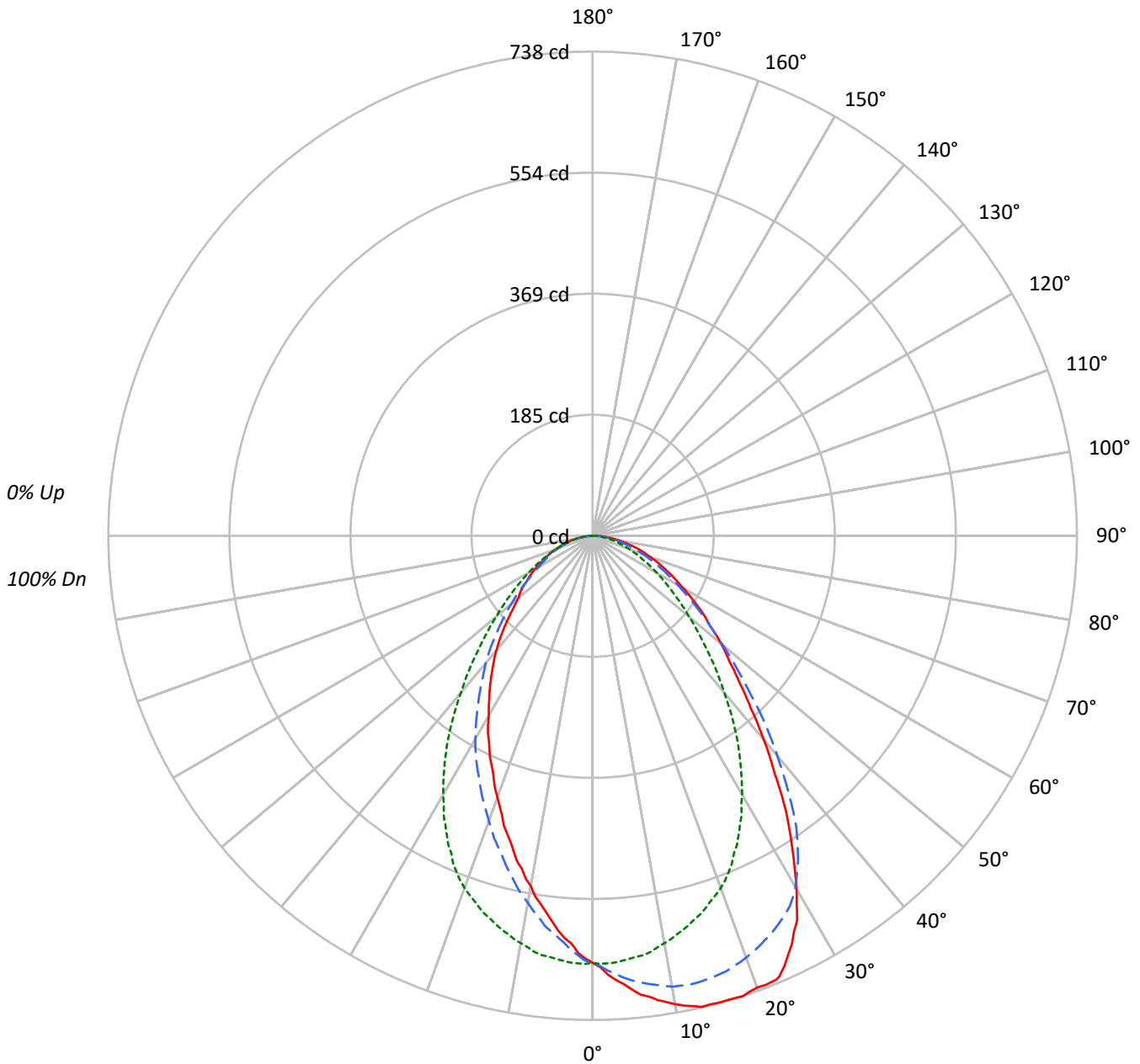
Test Method: LM-79-2019  
Report Number: P838391  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ615D010-HM60525840-61SQLWW  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1230.5 lumens  
Efficiency: N/A  
Efficacy: 87.9 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.17  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 14  
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									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	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87																			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75																			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66																			
4	87	76	69	63	85	75	68	62	73	66	62	71	65	61	68	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	53	51																			
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46																			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42																			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38																			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34																			
10	58	46	39	34	57	45	38	34	44	38	34	44	38	33	43	37	33	32																			

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

	0°	45°	90°	135°	180°
0°	63037	63037	63037	63037	63037
5°	67547	66156	62937	59689	58736
10°	71338	68667	62022	55854	53316
15°	73926	69939	60577	51771	48492
20°	75557	70531	58897	47691	43742
25°	75358	70521	55626	43718	39614
30°	69511	69164	50964	39980	35382
35°	60811	63980	45650	35763	32049
40°	51369	55371	39469	31982	28897
45°	43430	46389	33785	28058	25291
50°	38537	38906	28982	24460	22260
55°	34472	33298	25064	21061	20943
60°	30768	29024	21874	18232	19704
65°	28264	25788	19003	16917	18040
70°	26059	23084	16768	15777	16768
75°	24517	20586	14598	14336	15384
80°	22538	18438	12831	13222	14003
85°	22453	16617	10893	10893	12338

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 45°  
 Luminance: 46773 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.4	5.0
10°-20°	171.1	13.9
20°-30°	244.0	19.8
30°-40°	251.5	20.4
40°-50°	202.4	16.5
50°-60°	143.1	11.6
60°-70°	92.8	7.5
70°-80°	49.8	4.1
80°-90°	14.4	1.2
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°	476.4	38.7
0°-40°	727.9	59.2
0°-60°	1073.5	87.2
0°-90°	1230.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1230.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	651	651	651	651	651	
5°	695	680	647	614	604	67
15°	737	697	604	516	484	208
25°	705	660	520	409	371	321
35°	514	541	386	302	271	319
45°	317	339	247	205	185	248
55°	204	197	148	125	124	183
65°	123	112	83	74	79	123
75°	66	55	39	38	41	69
85°	20	15	10	10	11	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	650.7	650.7	650.7	650.7	650.7	650.7	650.7	650.7	650.7	650.7	650.7
1°	657.7	660.5	658.4	658.4	656.3	655.6	657.0	654.9	654.2	652.8	650.0
2°	669.5	667.4	666.7	667.4	663.2	663.2	661.2	657.0	654.9	652.1	644.4
3°	677.9	676.5	675.1	674.4	670.2	666.7	663.9	659.1	654.9	651.4	640.2
4°	685.5	685.5	684.1	681.4	677.2	673.0	667.4	661.8	655.6	649.3	634.7
5°	694.6	695.3	689.0	688.3	683.4	677.2	670.9	663.2	655.6	647.2	631.2
6°	703.6	700.2	698.8	693.9	686.9	681.4	673.7	665.3	654.9	645.1	623.5
7°	707.8	707.1	703.6	698.8	692.5	683.4	675.8	664.6	653.5	643.7	618.0
8°	714.8	714.8	710.6	704.3	695.3	686.9	677.2	663.9	652.8	640.2	610.3
9°	719.7	719.7	714.1	708.5	700.2	689.0	677.9	663.2	649.3	634.7	603.3
10°	725.2	723.9	719.7	711.3	704.3	691.8	677.9	662.5	647.2	630.5	596.4
11°	729.4	727.3	722.5	716.2	705.0	692.5	677.9	662.5	644.4	626.3	589.4
12°	732.9	731.5	725.2	717.6	706.4	693.9	677.2	659.8	639.6	620.7	580.3
13°	737.1	732.9	726.6	719.7	707.1	692.5	674.4	655.6	636.1	615.9	572.7
14°	736.4	735.7	730.1	720.4	706.4	691.1	673.7	651.4	631.2	610.3	563.6
15°	737.1	736.4	730.1	721.1	705.7	689.0	671.6	648.6	626.3	604.0	554.6
16°	737.1	737.1	728.7	719.7	705.0	686.9	667.4	645.8	621.4	599.1	546.9
17°	737.1	737.1	730.1	717.6	703.0	685.5	663.2	640.2	615.9	592.2	535.7
18°	738.5	736.4	727.3	716.9	700.2	682.1	660.5	636.1	611.0	584.5	528.1
19°	735.0	733.6	725.9	712.7	698.1	677.9	656.3	631.2	606.1	578.2	519.0
20°	732.9	735.0	724.5	710.6	693.9	674.4	652.1	626.3	599.1	571.3	510.0
21°	733.6	732.9	721.8	707.1	691.1	669.5	647.2	620.7	591.5	562.9	501.6
22.5°	732.2	730.1	718.3	702.3	682.7	663.2	638.9	611.7	580.3	548.3	485.6
23°	729.4	727.3	718.3	700.9	680.0	660.5	634.7	606.1	576.2	543.4	481.4
24°	718.3	717.6	713.4	696.0	676.5	654.9	629.8	597.1	563.6	529.5	471.0
25°	705.0	706.4	704.3	693.2	670.9	648.6	622.1	585.9	551.8	520.4	458.4
26°	692.5	692.5	691.1	686.9	665.3	641.6	611.0	572.7	539.9	507.2	445.2
27°	676.5	679.3	676.5	674.4	659.8	634.0	599.1	563.6	526.7	494.6	434.0
28°	663.9	663.9	662.5	659.1	654.2	624.9	586.6	550.4	514.2	483.5	421.5
29°	641.6	645.8	646.5	647.2	646.5	613.1	574.8	535.7	500.9	467.5	409.6
30°	621.4	625.6	628.4	633.3	634.0	602.6	560.8	523.9	488.4	455.6	399.2
32.5°	566.4	574.1	581.7	590.1	594.3	571.3	526.7	486.3	450.1	420.8	367.2
35°	514.2	516.2	524.6	544.1	548.3	533.7	486.3	448.0	413.8	386.0	337.2
37.5°	454.9	459.1	471.0	493.2	494.6	482.8	450.1	405.5	373.4	349.0	306.5
40°	406.2	408.3	416.6	435.4	441.7	434.0	405.5	365.1	335.8	312.1	277.3
42.5°	357.4	360.2	370.6	385.3	394.3	385.3	360.2	325.3	296.8	279.4	249.4
45°	317.0	320.5	330.2	338.6	341.4	335.8	313.5	284.9	264.7	246.6	223.6
47.5°	282.2	285.6	292.6	296.1	299.6	294.0	276.6	252.9	232.7	218.1	197.2
50°	255.7	255.0	259.9	261.3	261.3	255.0	240.4	220.8	204.1	192.3	174.9
52.5°	225.7	227.1	230.6	229.2	228.5	222.9	210.4	193.7	179.7	169.3	153.3
55°	204.1	202.0	204.1	202.7	199.9	194.4	183.2	169.3	157.4	148.4	133.8
57.5°	180.4	180.4	181.1	178.4	174.9	168.6	158.8	147.7	137.2	129.6	117.7
60°	158.8	160.2	159.5	156.8	153.3	146.3	138.6	127.5	118.4	112.9	101.7



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	<i>108.0</i>	108.0	105.9	103.8	98.9	92.7	87.1	80.1	75.2	70.4	63.4
70°	<i>92.0</i>	93.4	90.6	87.1	83.6	79.4	73.2	67.6	62.7	59.2	53.6
72.5°	<i>79.4</i>	78.7	76.6	73.2	70.4	65.5	59.9	55.7	51.6	48.8	44.6
75°	<i>65.5</i>	65.5	63.4	60.6	57.1	52.9	48.8	45.3	41.8	39.0	36.9
77.5°	<i>52.3</i>	52.9	50.9	48.8	46.0	41.8	38.3	35.5	32.7	30.7	29.3
80°	<i>40.4</i>	41.1	39.0	37.6	34.1	32.0	29.3	26.5	24.4	23.0	22.3
82.5°	<i>30.7</i>	30.0	28.6	27.9	25.1	23.0	20.2	18.8	17.4	16.0	16.0
85°	<i>20.2</i>	19.5	18.8	18.1	16.0	13.9	13.2	11.8	10.5	9.8	9.8
87.5°	<i>10.5</i>	10.5	9.8	9.1	8.4	7.0	6.3	4.9	4.2	4.2	4.2
90°	<i>0.0</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	650.7	650.7	650.7
1°	647.9	645.1	644.4
2°	639.6	635.4	636.1
3°	631.9	627.0	622.1
4°	622.1	614.5	614.5
5°	613.8	606.1	604.0
6°	606.1	593.6	590.8
7°	599.1	583.8	578.9
8°	587.3	572.0	567.1
9°	578.9	562.2	557.3
10°	567.8	551.1	542.0
11°	558.7	539.9	533.0
12°	549.0	526.0	519.0
13°	537.8	514.2	510.0
14°	527.4	504.4	496.7
15°	516.2	492.6	483.5
16°	504.4	480.7	472.3
17°	494.6	468.2	461.9
18°	484.9	457.0	447.3
19°	473.0	446.6	435.4
20°	462.6	433.3	424.3
21°	451.4	423.6	413.8
22.5°	436.1	404.8	395.7
23°	431.2	399.2	389.4
24°	420.1	388.1	379.7
25°	409.0	379.7	370.6
26°	399.2	367.2	358.8
27°	389.4	357.4	348.3
28°	379.0	346.9	340.0
29°	368.5	335.8	328.8
30°	357.4	328.1	316.3
32.5°	329.5	303.1	293.3
35°	302.4	279.4	271.0
37.5°	275.9	257.1	249.4
40°	252.9	236.2	228.5
42.5°	229.2	213.9	206.2
45°	204.8	192.3	184.6
47.5°	182.5	172.1	163.7
50°	162.3	151.9	147.7
52.5°	142.8	135.9	137.9
55°	124.7	124.7	124.0
57.5°	107.3	112.2	112.9
60°	94.1	100.3	101.7





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	64.8	68.3	69.7
70°	55.7	58.5	59.2
72.5°	47.4	49.5	50.9
75°	38.3	41.1	41.1
77.5°	31.4	32.7	33.4
80°	23.7	24.4	25.1
82.5°	16.7	17.4	18.1
85°	9.8	10.5	11.1
87.5°	4.2	4.2	4.2
90°	0.0	0.0	0.0

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

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report





— 0°-180°    - - 45°-225°    - - - 90°-270°

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Scaled Data Report





62.5°	140.7	142.1	140.0	136.5	133.1	126.8	119.8	110.1	103.1	97.5	87.8
65°	123.3	124.0	122.6	119.1	115.6	109.4	102.4	94.1	88.5	82.9	74.5

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Scaled Data Report





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Scaled Data Report



62.5°	84.3	89.2	89.9
65°	73.8	78.0	78.7

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Scaled Data Report



(END OF REPORT)