

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: P838664

Luminaire Tested: HCSQ650D010-HM64560835-61SQC

Issue Date: 5/21/2024

**Test Information**

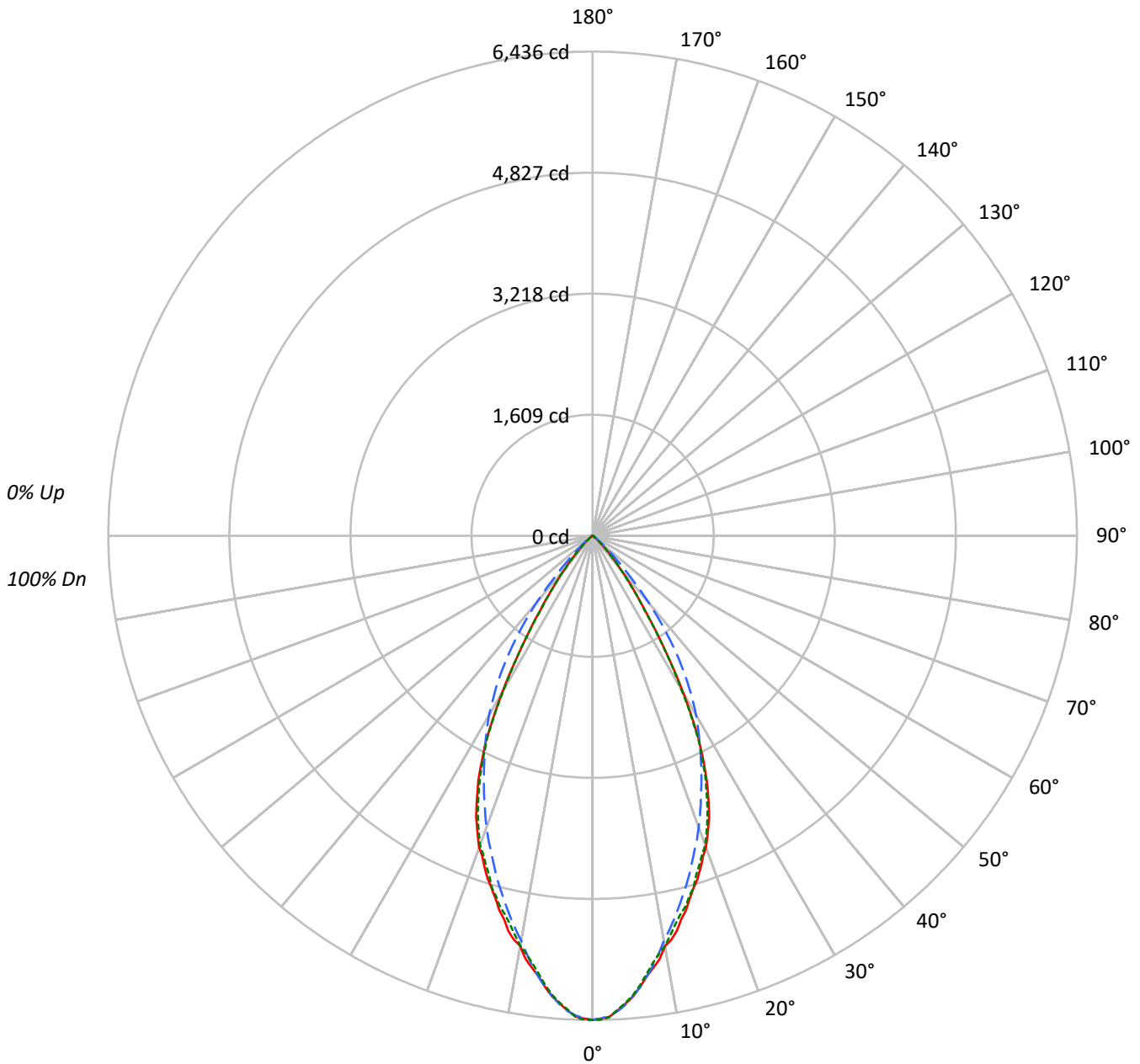
Test Method: LM-79-2019  
Report Number: P838664  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ650D010-HM64560835-61SQC  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4820.9 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 0.81 / 0.85  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 49.7  
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	114	111	108	106	111	109	107	105	105	103	101	101	100	98	98	96	95	94																			
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87																			
3	103	97	92	88	101	95	91	87	93	89	86	90	87	84	88	85	83	81																			
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	78	76																			
5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71																			
6	88	80	74	70	87	79	73	69	77	72	69	76	72	68	75	71	68	66																			
7	84	75	69	65	83	74	69	65	73	68	64	72	67	64	71	67	64	62																			
8	80	71	65	61	79	70	65	61	69	64	60	68	64	60	67	63	60	59																			
9	76	67	61	57	75	66	61	57	65	60	57	65	60	57	64	60	56	55																			
10	73	63	58	54	72	63	57	54	62	57	54	61	57	53	61	56	53	52																			

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

	0°	45°	90°
0°	277119	277119	277119
5°	265821	265354	264983
10°	242107	238820	241919
15°	222503	214359	221161
20°	201924	188920	200545
25°	170653	162383	168307
30°	119488	136695	117460
35°	64177	104860	62937
40°	31778	64883	31537
45°	13877	27358	13615
50°	4461	9934	4461
55°	2259	3228	2094
60°	1481	1481	1481
65°	1090	1090	1090
70°	806	806	806
75°	715	715	715
80°	521	521	521
85°	1037	1037	1037

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 27358 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	565.2	11.7
10°-20°	1364.8	28.3
20°-30°	1576.5	32.7
30°-40°	984.5	20.4
40°-50°	273.5	5.7
50°-60°	38.2	0.8
60°-70°	11.2	0.2
70°-80°	4.8	0.1
80°-90°	2.0	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°	3506.5	72.7
0°-40°	4491.1	93.2
0°-60°	4802.8	99.6
0°-90°	4820.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4820.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6436	6436	6436	6436	6436	
5°	6150	6133	6140	6131	6131	567
15°	4992	4897	4809	4884	4962	1398
25°	3592	3487	3418	3485	3543	1604
35°	1221	1507	1995	1490	1197	811
45°	228	290	449	288	224	198
55°	30	30	43	30	28	30
65°	11	11	11	11	11	11
75°	4	4	4	4	4	5
85°	2	2	2	2	2	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6436.3	6436.3	6436.3	6436.3	6436.3
1°	6417.0	6417.0	6417.0	6434.2	6434.2
2°	6397.6	6393.3	6382.6	6395.5	6401.9
3°	6318.1	6326.7	6331.0	6324.5	6309.5
4°	6236.4	6227.8	6251.4	6236.4	6223.5
5°	6150.4	6133.2	6139.6	6131.0	6131.0
6°	6030.0	6051.5	6034.3	6019.3	6010.7
7°	5898.9	5916.1	5905.3	5883.8	5868.8
8°	5795.7	5784.9	5767.7	5763.4	5737.6
9°	5696.8	5658.1	5619.4	5625.9	5632.3
10°	5537.7	5542.0	5462.5	5522.7	5533.4
11°	5471.1	5447.4	5342.1	5391.5	5408.7
12°	5374.3	5299.1	5208.8	5249.7	5281.9
13°	5234.6	5157.2	5075.5	5137.9	5170.1
14°	5129.3	5041.1	4937.9	5017.5	5084.1
15°	4991.7	4897.1	4809.0	4884.2	4961.6
16°	4871.3	4761.7	4673.5	4746.6	4862.7
17°	4766.0	4630.5	4523.0	4600.4	4712.2
18°	4643.4	4486.5	4387.6	4469.3	4596.1
19°	4508.0	4348.9	4260.8	4327.4	4473.6
20°	4407.0	4228.5	4123.2	4187.7	4376.9
22.5°	4045.8	3858.8	3762.0	3839.4	3989.9
25°	3592.2	3486.9	3418.1	3484.7	3542.8
27.5°	3054.8	3054.8	3078.4	3050.5	3033.3
30°	2403.4	2577.5	2749.5	2568.9	2362.6
32.5°	1754.2	2033.6	2379.8	2070.2	1752.0
35°	1221.0	1507.0	1995.0	1489.8	1197.4
37.5°	849.1	1038.3	1573.6	1049.1	838.4
40°	565.4	696.5	1154.4	709.4	561.1
42.5°	369.8	460.0	746.0	462.2	361.2
45°	227.9	290.2	449.3	288.1	223.6
47.5°	133.3	172.0	262.3	174.1	131.1
50°	66.6	101.0	148.3	98.9	66.6
52.5°	38.7	53.7	81.7	51.6	38.7
55°	30.1	30.1	43.0	30.1	27.9
57.5°	23.6	23.6	23.6	23.6	21.5
60°	17.2	19.3	17.2	17.2	17.2
62.5°	15.0	15.0	12.9	15.0	12.9
65°	10.7	10.7	10.7	10.7	10.7
67.5°	8.6	8.6	8.6	8.6	8.6
70°	6.4	6.4	6.4	6.4	6.4
72.5°	4.3	6.4	4.3	6.4	6.4
75°	4.3	4.3	4.3	4.3	4.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	2.1	2.1	2.1	2.1	2.1
85°	2.1	2.1	2.1	2.1	2.1
87.5°	2.1	2.1	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report





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

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77.5°	4.3	4.3	4.3	4.3	2.1
80°	2.1	2.1	2.1	2.1	2.1

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(END OF REPORT)