

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: P838759

Luminaire Tested: HCSQ660D010-HM64560930-61SQC

Issue Date: 5/21/2024



**Test Information**

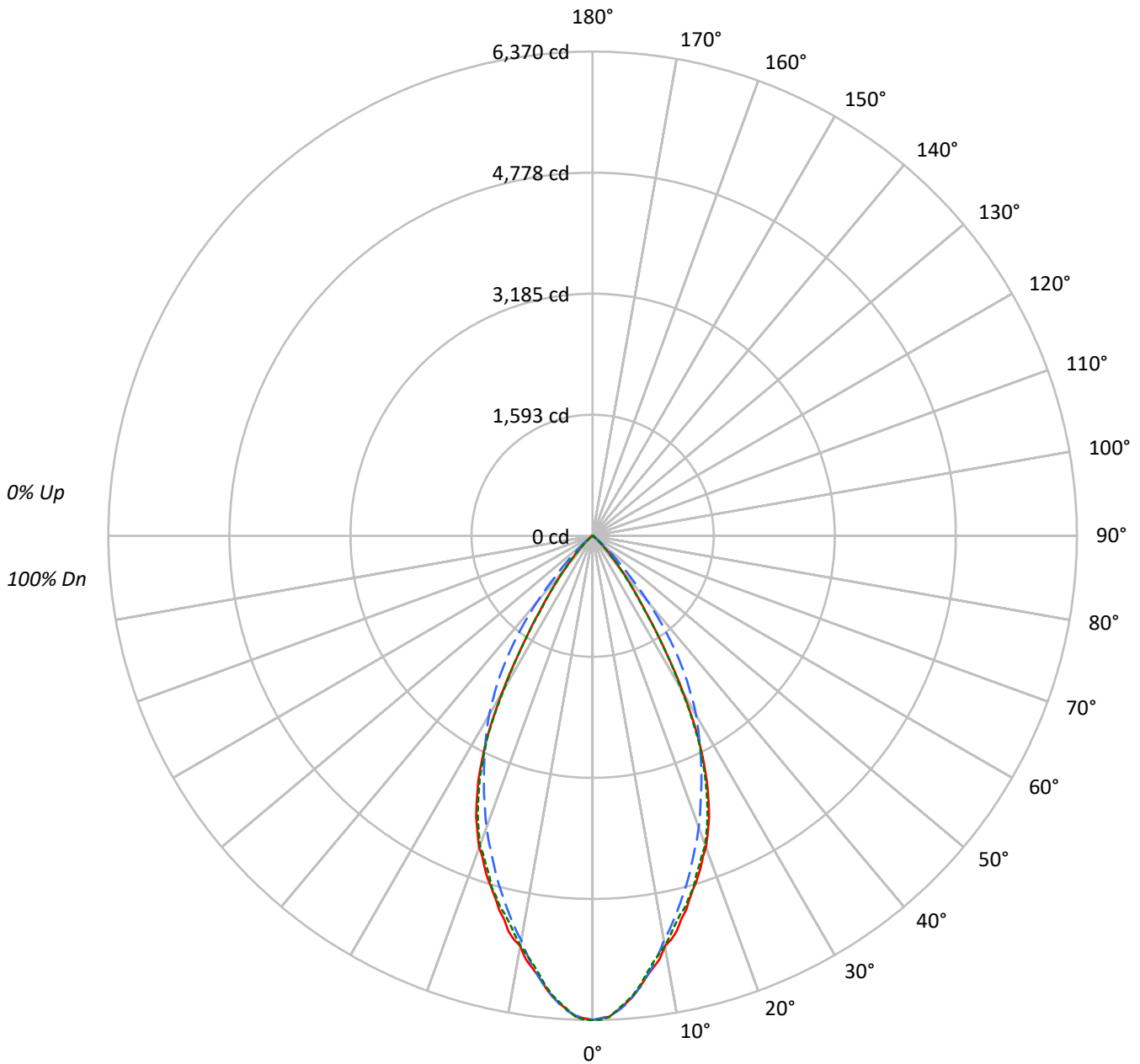
Test Method: LM-79-2019  
Report Number: P838759  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ660D010-HM64560930-61SQC  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4771.1 lumens  
Efficiency: N/A  
Efficacy: 85.2 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): 56  
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°	274256	274256	274256
5°	263072	262614	262242
10°	239607	236350	239419
15°	220202	212139	218874
20°	199834	186969	198469
25°	168891	160701	166563
30°	118255	135283	116242
35°	63515	103772	62285
40°	31447	64214	31211
45°	13731	27072	13475
50°	4421	9833	4421
55°	2237	3198	2079
60°	1464	1464	1464
65°	1080	1080	1080
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: 27072 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	559.3	11.7
10°-20°	1350.7	28.3
20°-30°	1560.2	32.7
30°-40°	974.4	20.4
40°-50°	270.7	5.7
50°-60°	37.9	0.8
60°-70°	11.1	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°	3470.3	72.7
0°-40°	4444.6	93.2
0°-60°	4753.2	99.6
0°-90°	4771.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4771.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6370	6370	6370	6370	6370	
5°	6087	6070	6076	6068	6068	561
15°	4940	4846	4759	4834	4910	1384
25°	3555	3451	3383	3449	3506	1588
35°	1208	1491	1974	1474	1185	803
45°	226	287	445	285	221	195
55°	30	30	43	30	28	29
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°	6369.8	6369.8	6369.8	6369.8	6369.8
1°	6350.6	6350.6	6350.6	6367.6	6367.6
2°	6331.5	6327.2	6316.6	6329.3	6335.7
3°	6252.7	6261.3	6265.5	6259.1	6244.2
4°	6171.9	6163.4	6186.8	6171.9	6159.1
5°	6086.8	6069.8	6076.2	6067.6	6067.6
6°	5967.7	5988.9	5971.9	5957.0	5948.5
7°	5837.9	5854.9	5844.3	5823.0	5808.1
8°	5735.8	5725.1	5708.1	5703.8	5678.3
9°	5637.9	5599.6	5561.3	5567.7	5574.1
10°	5480.5	5484.7	5406.0	5465.6	5476.2
11°	5414.5	5391.1	5286.9	5335.8	5352.8
12°	5318.8	5244.3	5154.9	5195.4	5227.3
13°	5180.5	5103.9	5023.0	5084.7	5116.7
14°	5076.2	4989.0	4886.9	4965.6	5031.6
15°	4940.1	4846.5	4759.2	4833.7	4910.3
16°	4820.9	4712.4	4625.2	4697.5	4812.4
17°	4716.7	4582.6	4476.3	4552.9	4663.5
18°	4595.4	4440.1	4342.2	4423.1	4548.6
19°	4461.4	4303.9	4216.7	4282.7	4427.3
20°	4361.4	4184.8	4080.6	4144.4	4331.6
22.5°	4004.0	3818.9	3723.1	3799.7	3948.7
25°	3555.1	3450.8	3382.7	3448.7	3506.1
27.5°	3023.2	3023.2	3046.6	3018.9	3001.9
30°	2378.6	2550.9	2721.1	2542.4	2338.1
32.5°	1736.0	2012.6	2355.1	2048.8	1733.9
35°	1208.4	1491.4	1974.3	1474.4	1185.0
37.5°	840.4	1027.6	1557.3	1038.2	829.7
40°	559.5	689.3	1142.5	702.1	555.3
42.5°	365.9	455.3	738.2	457.4	357.4
45°	225.5	287.2	444.6	285.1	221.3
47.5°	131.9	170.2	259.6	172.3	129.8
50°	66.0	100.0	146.8	97.9	66.0
52.5°	38.3	53.2	80.8	51.1	38.3
55°	29.8	29.8	42.6	29.8	27.7
57.5°	23.4	23.4	23.4	23.4	21.3
60°	17.0	19.1	17.0	17.0	17.0
62.5°	14.9	14.9	12.8	14.9	12.8
65°	10.6	10.6	10.6	10.6	10.6
67.5°	8.5	8.5	8.5	8.5	8.5
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

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

Scaled Data Report



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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)