

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: P838614

Luminaire Tested: HCSQ645D010-HM64560827-61SQC

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838614  
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: HCSQ645D010-HM64560827-61SQC  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

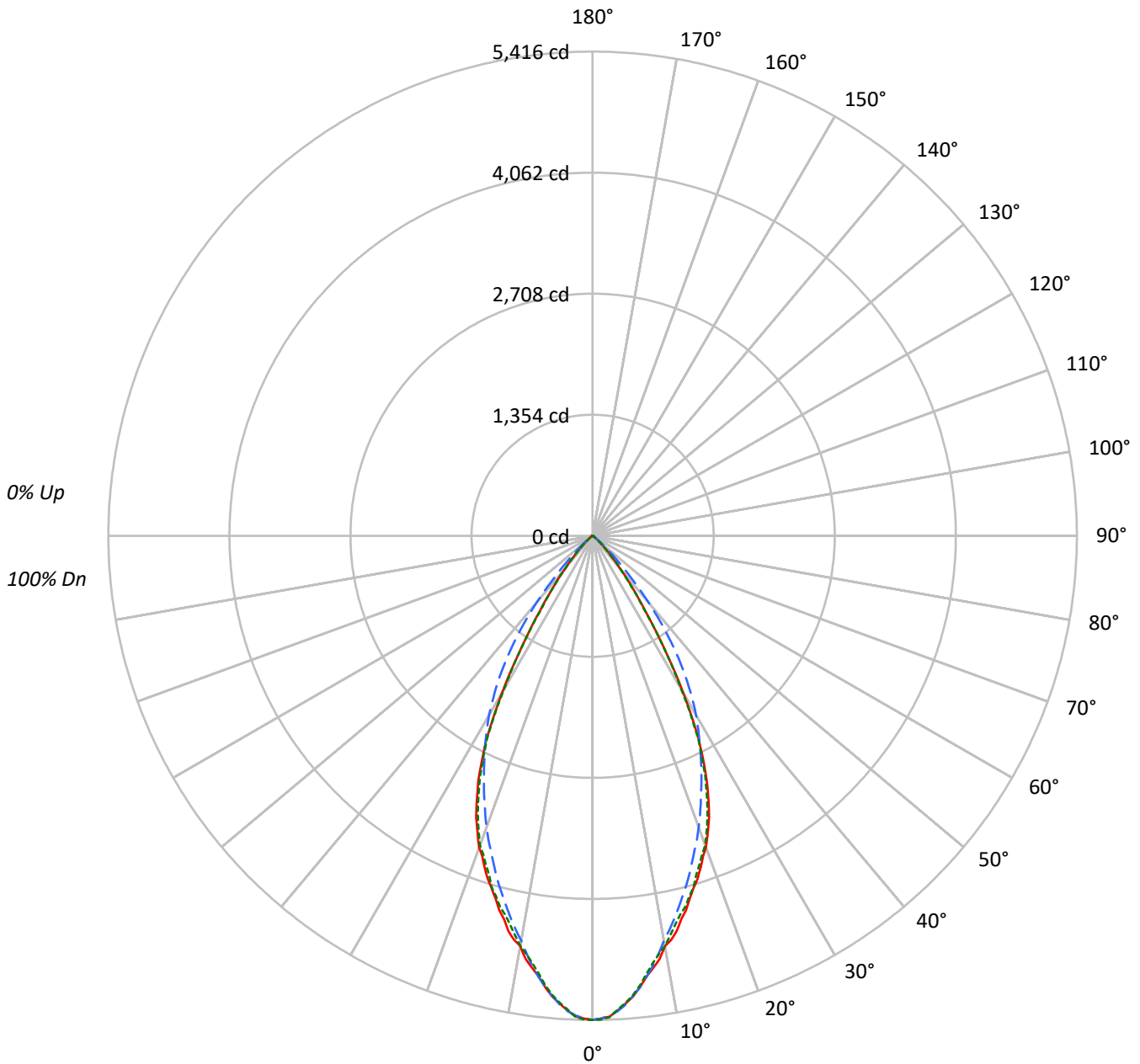
Lumens per Lamp: N/A  
Luminaire Lumens: 4056.8 lumens  
Efficiency: N/A  
Efficacy: 88.4 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 0.81 / 0.85  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 45.9  
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°	233198	233198	233198
5°	223690	223301	222986
10°	203735	200967	203577
15°	187235	180384	186107
20°	169919	158978	168760
25°	143608	136643	141632
30°	100551	115029	98841
35°	54007	88240	52961
40°	26742	54598	26540
45°	11679	23022	11453
50°	3758	8359	3758
55°	1899	2717	1764
60°	1249	1249	1249
65°	917	917	917
70°	680	680	680
75°	599	599	599
80°	446	446	446
85°	889	889	889

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 23022 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	475.6	11.7
10°-20°	1148.5	28.3
20°-30°	1326.7	32.7
30°-40°	828.5	20.4
40°-50°	230.2	5.7
50°-60°	32.2	0.8
60°-70°	9.5	0.2
70°-80°	4.0	0.1
80°-90°	1.7	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°	2950.8	72.7
0°-40°	3779.2	93.2
0°-60°	4041.6	99.6
0°-90°	4056.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4056.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5416	5416	5416	5416	5416	
5°	5176	5161	5167	5159	5159	477
15°	4200	4121	4047	4110	4175	1177
25°	3023	2934	2876	2932	2981	1350
35°	1028	1268	1679	1254	1008	683
45°	192	244	378	242	188	166
55°	25	25	36	25	24	25
65°	9	9	9	9	9	10
75°	4	4	4	4	4	4
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°	5416.2	5416.2	5416.2	5416.2	5416.2
1°	5399.9	5399.9	5399.9	5414.4	5414.4
2°	5383.6	5380.0	5371.0	5381.8	5387.3
3°	5316.7	5323.9	5327.6	5322.1	5309.5
4°	5248.0	5240.7	5260.6	5248.0	5237.1
5°	5175.6	5161.1	5166.6	5159.3	5159.3
6°	5074.3	5092.4	5077.9	5065.2	5058.0
7°	4963.9	4978.4	4969.4	4951.3	4938.6
8°	4877.1	4868.1	4853.6	4850.0	4828.3
9°	4793.9	4761.3	4728.8	4734.2	4739.6
10°	4660.0	4663.6	4596.7	4647.4	4656.4
11°	4603.9	4584.0	4495.4	4537.0	4551.5
12°	4522.5	4459.2	4383.2	4417.6	4444.8
13°	4405.0	4339.8	4271.1	4323.5	4350.7
14°	4316.3	4242.1	4155.3	4222.2	4278.3
15°	4200.5	4120.9	4046.8	4110.1	4175.2
16°	4099.2	4007.0	3932.8	3994.3	4092.0
17°	4010.6	3896.6	3806.2	3871.3	3965.4
18°	3907.5	3775.4	3692.2	3760.9	3867.7
19°	3793.5	3659.6	3585.5	3641.5	3764.6
20°	3708.5	3558.3	3469.7	3524.0	3683.2
22.5°	3404.6	3247.2	3165.8	3230.9	3357.5
25°	3022.9	2934.2	2876.3	2932.4	2981.3
27.5°	2570.6	2570.6	2590.5	2567.0	2552.5
30°	2022.5	2169.0	2313.7	2161.8	1988.1
32.5°	1476.2	1711.3	2002.6	1742.1	1474.3
35°	1027.5	1268.1	1678.8	1253.6	1007.6
37.5°	714.6	873.8	1324.2	882.8	705.5
40°	475.8	586.1	971.4	597.0	472.2
42.5°	311.2	387.1	627.7	388.9	303.9
45°	191.8	244.2	378.1	242.4	188.1
47.5°	112.2	144.7	220.7	146.5	110.3
50°	56.1	85.0	124.8	83.2	56.1
52.5°	32.6	45.2	68.7	43.4	32.6
55°	25.3	25.3	36.2	25.3	23.5
57.5°	19.9	19.9	19.9	19.9	18.1
60°	14.5	16.3	14.5	14.5	14.5
62.5°	12.7	12.7	10.9	12.7	10.9
65°	9.0	9.0	9.0	9.0	9.0
67.5°	7.2	7.2	7.2	7.2	7.2
70°	5.4	5.4	5.4	5.4	5.4
72.5°	3.6	5.4	3.6	5.4	5.4
75°	3.6	3.6	3.6	3.6	3.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	1.8	1.8	1.8	1.8	1.8
85°	1.8	1.8	1.8	1.8	1.8
87.5°	1.8	1.8	1.8	1.8	1.8
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°	3.6	3.6	3.6	3.6	1.8
80°	1.8	1.8	1.8	1.8	1.8

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