

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: P837246

Luminaire Tested: HCSQ407D010-HM40525835-41SQMB

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837246  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ407D010-HM40525835-41SQMB  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

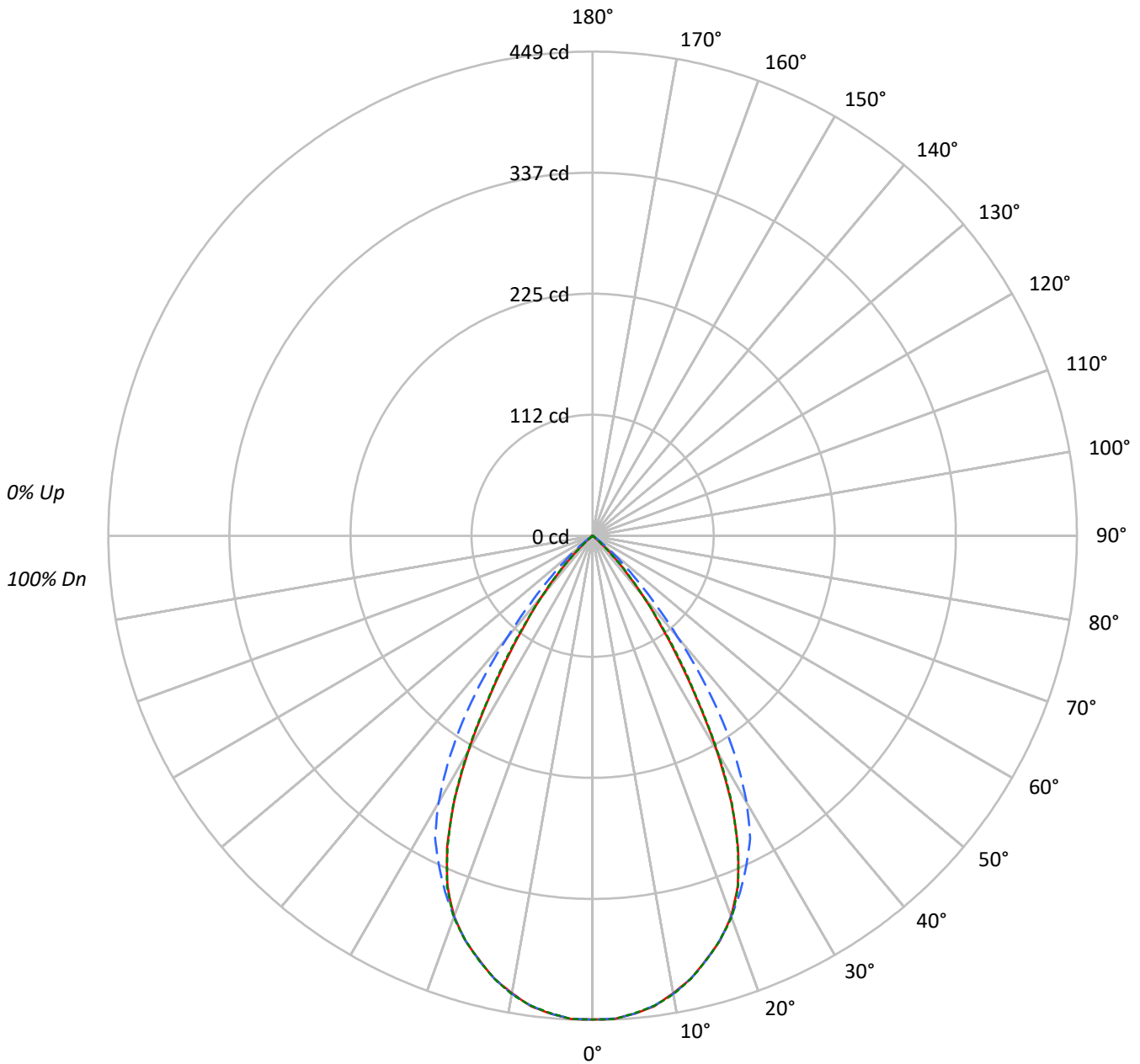
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 448.1 lumens  
Efficiency: N/A  
Efficacy: 56.0 lumens/watt  
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 8  
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					70					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	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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87								
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74								
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69								
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64								
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60								
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56								
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52								
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49								

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

	0°	45°	90°
0°	43458	43458	43458
5°	43265	43265	43226
10°	42368	42417	42456
15°	40819	40859	40859
20°	38701	38742	38825
25°	34119	36033	33991
30°	25739	31937	25974
35°	16143	24859	16687
40°	9105	15479	9105
45°	3822	7809	3768
50°	316	3014	377
55°	135	625	135
60°	155	78	155
65°	92	92	92
70°	113	113	113
75°	150	150	150
80°	0	223	223
85°	0	445	445

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 7809 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.0	9.4
10°-20°	114.4	25.5
20°-30°	148.4	33.1
30°-40°	105.5	23.5
40°-50°	34.2	7.6
50°-60°	2.5	0.5
60°-70°	0.4	0.1
70°-80°	0.4	0.1
80°-90°	0.3	0.1
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°	304.8	68.0
0°-40°	410.3	91.6
0°-60°	447.0	99.8
0°-90°	448.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	448.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	449	449	449	449	449	
5°	445	445	445	445	444	42
15°	407	408	407	408	407	114
25°	319	328	337	329	318	143
35°	136	162	210	163	141	87
45°	28	40	57	40	28	23
55°	1	1	4	1	1	1
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	448.6	448.6	448.6	448.6	448.6
2.5°	448.6	448.6	448.2	448.2	448.6
5°	444.9	445.3	444.9	444.9	444.5
7.5°	439.9	439.9	439.5	439.5	439.5
10°	430.7	431.2	431.2	431.2	431.6
12.5°	420.7	420.7	420.7	420.7	420.7
15°	407.0	408.3	407.4	408.3	407.4
17.5°	393.3	393.3	392.9	393.7	392.9
20°	375.4	375.4	375.8	376.6	376.6
22.5°	351.7	355.8	357.5	356.7	352.5
25°	319.2	327.5	337.1	329.2	318.0
27.5°	278.4	294.2	316.3	296.7	279.3
30°	230.1	253.9	285.5	254.7	232.2
32.5°	180.2	207.7	249.7	209.8	181.9
35°	136.5	161.5	210.2	163.1	141.1
37.5°	100.7	123.6	166.9	124.4	103.6
40°	72.0	88.6	122.4	90.3	72.0
42.5°	46.2	62.8	86.1	63.3	48.3
45°	27.9	39.5	57.0	40.4	27.5
47.5°	12.5	22.5	35.4	23.3	12.5
50°	2.1	9.2	20.0	9.6	2.5
52.5°	1.2	1.7	9.6	1.7	1.2
55°	0.8	0.8	3.7	0.8	0.8
57.5°	0.8	0.8	0.8	0.8	0.8
60°	0.8	0.4	0.4	0.4	0.8
62.5°	0.4	0.4	0.4	0.4	0.4
65°	0.4	0.4	0.4	0.4	0.4
67.5°	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4
80°	0.0	0.4	0.4	0.4	0.4
82.5°	0.0	0.4	0.4	0.4	0.4
85°	0.0	0.0	0.4	0.4	0.4
87.5°	0.0	0.0	0.4	0.4	0.4
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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