

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: P837528

Luminaire Tested: HCSQ440D010-HM43040840-41SQC

Issue Date: 5/17/2024



**Test Information**

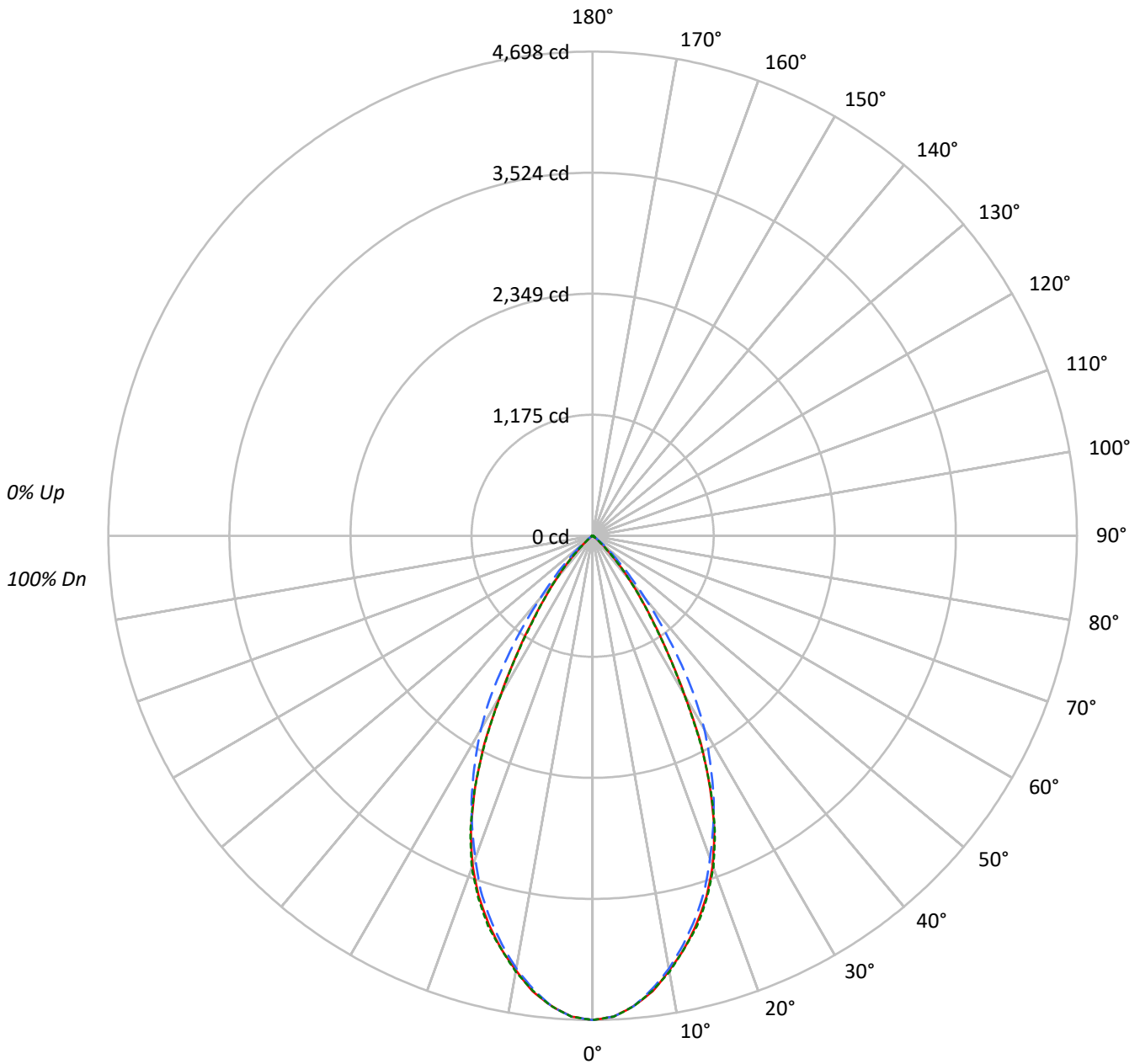
Test Method: LM-79-2019  
Report Number: P837528  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ440D010-HM43040840-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3796.9 lumens  
Efficiency: N/A  
Efficacy: 92.6 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41  
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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94								
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87								
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81								
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76								
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71								
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66								
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62								
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58								
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55								
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52								

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

	0°	45°	90°
0°	455169	455169	455169
5°	445413	445598	445598
10°	421299	419430	422430
15°	390901	385546	393007
20°	350907	343041	353061
25°	288208	296567	289224
30°	199226	242316	197739
35°	122674	171162	119741
40°	69213	100082	68732
45°	31606	50157	30305
50°	8048	20120	8334
55°	3868	6114	3547
60°	2577	2209	2964
65°	2178	1742	2178
70°	1614	1614	2153
75°	1422	1422	2133
80°	2120	2120	2120
85°	2112	4224	4224

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 50157 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	427.4	11.3
10°-20°	1079.4	28.4
20°-30°	1234.0	32.5
30°-40°	766.0	20.2
40°-50°	241.4	6.4
50°-60°	31.3	0.8
60°-70°	9.2	0.2
70°-80°	4.9	0.1
80°-90°	3.3	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°	2740.8	72.2
0°-40°	3506.8	92.4
0°-60°	3779.4	99.5
0°-90°	3796.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3796.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4698	4698	4698	4698	4698	
5°	4580	4576	4582	4578	4582	428
15°	3898	3869	3844	3869	3919	1087
25°	2696	2734	2774	2734	2706	1210
35°	1037	1198	1447	1169	1012	667
45°	231	276	366	278	221	195
55°	23	23	36	23	21	23
65°	10	10	8	10	10	9
75°	4	4	4	4	6	5
85°	2	4	4	4	4	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4698.5	4698.5	4698.5	4698.5	4698.5
2.5°	4669.9	4673.7	4669.9	4677.5	4669.9
5°	4580.3	4576.5	4582.2	4578.4	4582.2
7.5°	4458.3	4435.4	4433.5	4448.7	4450.6
10°	4282.8	4277.1	4263.8	4277.1	4294.3
12.5°	4103.6	4080.7	4061.6	4088.3	4103.6
15°	3897.6	3869.0	3844.2	3869.0	3918.6
17.5°	3670.7	3630.7	3609.7	3638.3	3686.0
20°	3403.8	3361.8	3327.5	3352.3	3424.7
22.5°	3083.4	3079.6	3056.7	3070.1	3096.8
25°	2696.3	2734.4	2774.5	2734.4	2705.8
27.5°	2271.1	2374.1	2465.6	2345.4	2253.9
30°	1781.0	1937.4	2166.2	1925.9	1767.7
32.5°	1376.8	1540.7	1832.5	1519.8	1365.3
35°	1037.3	1197.5	1447.3	1168.9	1012.5
37.5°	762.7	882.9	1100.3	875.3	762.7
40°	547.3	625.5	791.4	623.5	543.5
42.5°	379.5	431.0	553.0	427.1	368.0
45°	230.7	276.5	366.1	278.4	221.2
47.5°	122.0	175.4	230.7	167.8	122.0
50°	53.4	93.4	133.5	91.5	55.3
52.5°	28.6	40.0	72.5	40.0	28.6
55°	22.9	22.9	36.2	22.9	21.0
57.5°	17.2	17.2	19.1	17.2	17.2
60°	13.3	13.3	11.4	13.3	15.3
62.5°	11.4	11.4	9.5	11.4	11.4
65°	9.5	9.5	7.6	9.5	9.5
67.5°	7.6	7.6	7.6	7.6	7.6
70°	5.7	5.7	5.7	7.6	7.6
72.5°	5.7	5.7	5.7	5.7	5.7
75°	3.8	3.8	3.8	3.8	5.7
77.5°	3.8	3.8	3.8	3.8	3.8
80°	3.8	3.8	3.8	3.8	3.8
82.5°	1.9	3.8	3.8	3.8	3.8
85°	1.9	3.8	3.8	3.8	3.8
87.5°	1.9	1.9	3.8	3.8	3.8
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



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Scaled Data Report







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

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