

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: P837368

Luminaire Tested: HCSQ420D010-HM40525840-41SQC

Issue Date: 5/17/2024

**Test Information**

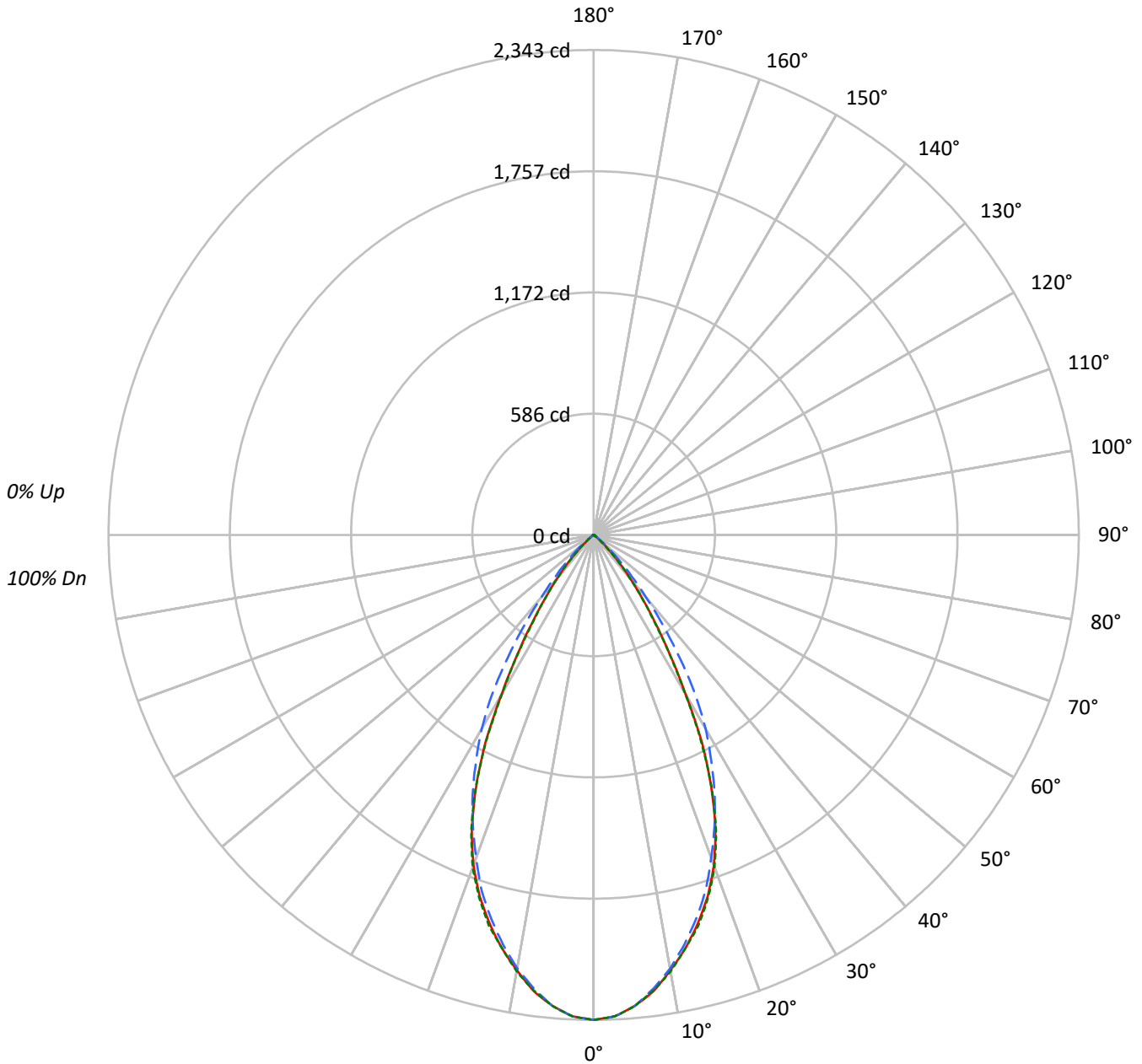
Test Method: LM-79-2019  
Report Number: P837368  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ420D010-HM40525840-41SQC  
Description: 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: 1893.3 lumens  
Efficiency: N/A  
Efficacy: 94.7 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): 20  
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	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°	226950	226950	226950
5°	222089	222177	222177
10°	210069	209134	210630
15°	194909	192241	195962
20°	174969	171041	176041
25°	143703	147872	144216
30°	99334	120822	98595
35°	61166	85339	59711
40°	34511	49902	34271
45°	15755	25017	15111
50°	4009	10037	4160
55°	1925	3057	1773
60°	1298	1104	1473
65°	1100	871	1100
70°	821	821	1076
75°	711	711	1085
80°	1060	1060	1060
85°	1112	2112	2112

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 25017 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	213.1	11.3
10°-20°	538.2	28.4
20°-30°	615.3	32.5
30°-40°	381.9	20.2
40°-50°	120.4	6.4
50°-60°	15.6	0.8
60°-70°	4.6	0.2
70°-80°	2.5	0.1
80°-90°	1.7	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°	1366.6	72.2
0°-40°	1748.5	92.4
0°-60°	1884.5	99.5
0°-90°	1893.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1893.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2343	2343	2343	2343	2343	
5°	2284	2282	2285	2283	2285	213
15°	1943	1929	1917	1929	1954	542
25°	1344	1363	1383	1363	1349	603
35°	517	597	722	583	505	332
45°	115	138	183	139	110	97
55°	11	11	18	11	10	11
65°	5	5	4	5	5	5
75°	2	2	2	2	3	2
85°	1	2	2	2	2	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2342.7	2342.7	2342.7	2342.7	2342.7
2.5°	2328.5	2330.4	2328.5	2332.3	2328.5
5°	2283.8	2281.9	2284.7	2282.8	2284.7
7.5°	2222.9	2211.5	2210.6	2218.2	2219.1
10°	2135.5	2132.6	2126.0	2132.6	2141.2
12.5°	2046.1	2034.7	2025.2	2038.5	2046.1
15°	1943.4	1929.1	1916.8	1929.1	1953.9
17.5°	1830.3	1810.3	1799.8	1814.1	1837.9
20°	1697.2	1676.2	1659.1	1671.5	1707.6
22.5°	1537.4	1535.5	1524.1	1530.8	1544.1
25°	1344.4	1363.4	1383.4	1363.4	1349.2
27.5°	1132.4	1183.7	1229.4	1169.5	1123.8
30°	888.0	966.0	1080.1	960.3	881.4
32.5°	686.5	768.2	913.7	757.8	680.8
35°	517.2	597.1	721.6	582.8	504.9
37.5°	380.3	440.2	548.6	436.4	380.3
40°	272.9	311.9	394.6	310.9	271.0
42.5°	189.2	214.9	275.7	213.0	183.5
45°	115.0	137.9	182.6	138.8	110.3
47.5°	60.9	87.5	115.0	83.7	60.9
50°	26.6	46.6	66.6	45.6	27.6
52.5°	14.3	20.0	36.1	20.0	14.3
55°	11.4	11.4	18.1	11.4	10.5
57.5°	8.6	8.6	9.5	8.6	8.6
60°	6.7	6.7	5.7	6.7	7.6
62.5°	5.7	5.7	4.8	5.7	5.7
65°	4.8	4.8	3.8	4.8	4.8
67.5°	3.8	3.8	3.8	3.8	3.8
70°	2.9	2.9	2.9	3.8	3.8
72.5°	2.9	2.9	2.9	2.9	2.9
75°	1.9	1.9	1.9	1.9	2.9
77.5°	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.9	1.9	1.9	1.9
82.5°	1.0	1.9	1.9	1.9	1.9
85°	1.0	1.9	1.9	1.9	1.9
87.5°	1.0	1.0	1.9	1.9	1.9
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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