

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: P837363

Luminaire Tested: HCSQ420D010-HM40525835-41SQC

Issue Date: 5/17/2024

**Test Information**

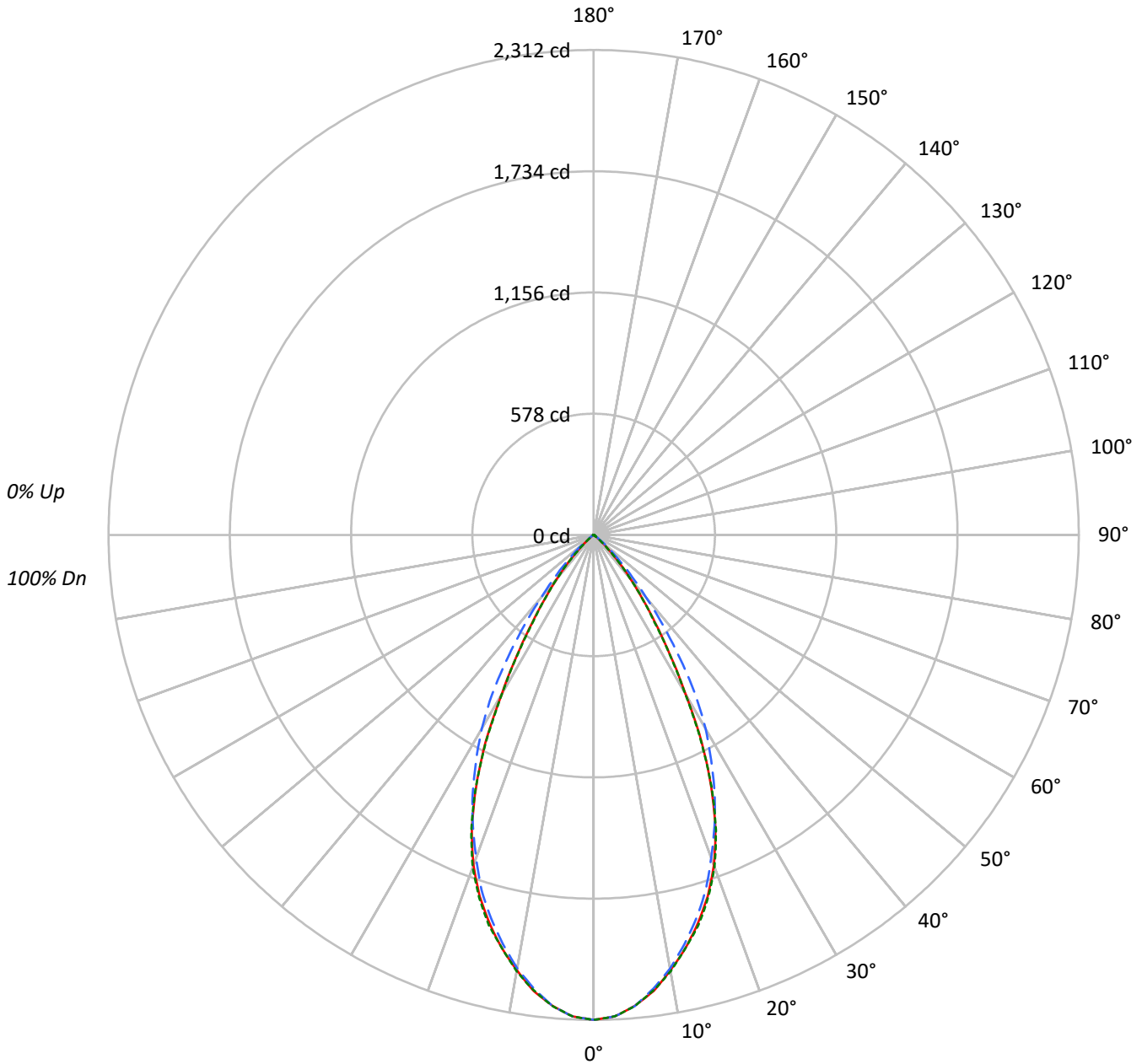
Test Method: LM-79-2019  
Report Number: P837363  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ420D010-HM40525835-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1868.0 lumens  
Efficiency: N/A  
Efficacy: 93.4 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									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°	223937	223937	223937
5°	219133	219220	219220
10°	207265	206351	207826
15°	192311	189684	193355
20°	172639	168763	173701
25°	141790	145905	142292
30°	98014	119211	97275
35°	60350	84203	58907
40°	34044	49232	33816
45°	15550	24674	14906
50°	3964	9902	4099
55°	1909	3006	1740
60°	1279	1085	1453
65°	1077	871	1077
70°	793	793	1076
75°	711	711	1048
80°	1060	1060	1060
85°	1000	2112	2112

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 24674 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	210.3	11.3
10°-20°	531.1	28.4
20°-30°	607.1	32.5
30°-40°	376.8	20.2
40°-50°	118.7	6.4
50°-60°	15.4	0.8
60°-70°	4.6	0.2
70°-80°	2.4	0.1
80°-90°	1.6	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°	1348.4	72.2
0°-40°	1725.3	92.4
0°-60°	1859.4	99.5
0°-90°	1868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1868.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2312	2312	2312	2312	2312	
5°	2253	2252	2254	2252	2254	211
15°	1918	1904	1891	1904	1928	535
25°	1326	1345	1365	1345	1331	595
35°	510	589	712	575	498	328
45°	114	136	180	137	109	96
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°	2311.6	2311.6	2311.6	2311.6	2311.6
2.5°	2297.5	2299.4	2297.5	2301.2	2297.5
5°	2253.4	2251.5	2254.3	2252.5	2254.3
7.5°	2193.3	2182.1	2181.2	2188.7	2189.6
10°	2107.0	2104.2	2097.7	2104.2	2112.7
12.5°	2018.9	2007.6	1998.2	2011.4	2018.9
15°	1917.5	1903.5	1891.3	1903.5	1927.9
17.5°	1805.9	1786.2	1775.9	1790.0	1813.4
20°	1674.6	1653.9	1637.0	1649.2	1684.9
22.5°	1517.0	1515.1	1503.8	1510.4	1523.5
25°	1326.5	1345.3	1365.0	1345.3	1331.2
27.5°	1117.3	1168.0	1213.0	1153.9	1108.9
30°	876.2	953.1	1065.7	947.5	869.6
32.5°	677.3	758.0	901.5	747.7	671.7
35°	510.3	589.1	712.0	575.1	498.1
37.5°	375.3	434.4	541.3	430.6	375.3
40°	269.2	307.7	389.3	306.8	267.4
42.5°	186.7	212.0	272.1	210.1	181.1
45°	113.5	136.0	180.1	137.0	108.8
47.5°	60.0	86.3	113.5	82.6	60.0
50°	26.3	46.0	65.7	45.0	27.2
52.5°	14.1	19.7	35.6	19.7	14.1
55°	11.3	11.3	17.8	11.3	10.3
57.5°	8.4	8.4	9.4	8.4	8.4
60°	6.6	6.6	5.6	6.6	7.5
62.5°	5.6	5.6	4.7	5.6	5.6
65°	4.7	4.7	3.8	4.7	4.7
67.5°	3.8	3.8	3.8	3.8	3.8
70°	2.8	2.8	2.8	3.8	3.8
72.5°	2.8	2.8	2.8	2.8	2.8
75°	1.9	1.9	1.9	1.9	2.8
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°	0.9	1.9	1.9	1.9	1.9
85°	0.9	1.9	1.9	1.9	1.9
87.5°	0.9	0.9	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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