

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: P837447

Luminaire Tested: HCSQ430D010-HM43040835-41SQMW

Issue Date: 5/17/2024

**Test Information**

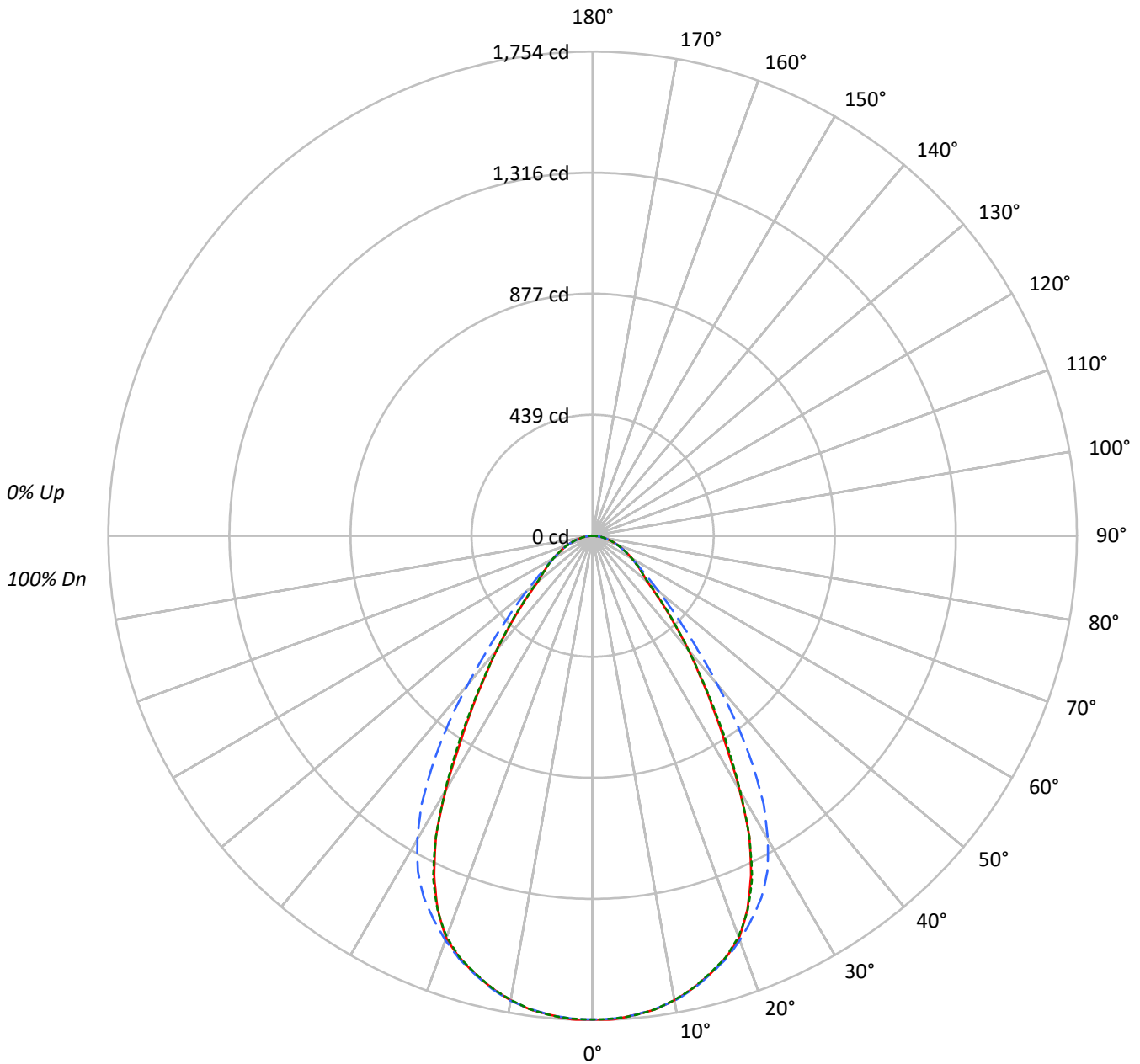
Test Method: LM-79-2019  
Report Number: P837447  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ430D010-HM43040835-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2543.2 lumens  
Efficiency: N/A  
Efficacy: 90.2 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 28.2  
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	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

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

	0°	45°	90°
0°	169774	169774	169774
5°	169489	169489	169625
10°	168104	168232	167967
15°	164831	164972	164560
20°	159886	160732	159330
25°	145114	154574	146130
30°	119111	141964	119569
35°	89537	119162	90826
40°	68188	88852	68024
45°	50924	63049	51855
50°	38793	46992	39607
55°	34962	36803	34962
60°	31930	31659	31659
65°	29020	29020	29020
70°	26993	26625	26625
75°	24966	24479	24966
80°	22762	22036	22762
85°	19674	19674	19674

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 63049 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	165.3	6.5
10°-20°	462.7	18.2
20°-30°	636.3	25.0
30°-40°	541.7	21.3
40°-50°	327.2	12.9
50°-60°	192.8	7.6
60°-70°	126.5	5.0
70°-80°	70.1	2.8
80°-90°	20.5	0.8
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°	1264.3	49.7
0°-40°	1806.0	71.0
0°-60°	2326.1	91.5
0°-90°	2543.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2543.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1752	1752	1752	1752	1752	
5°	1743	1744	1743	1742	1744	165
15°	1644	1648	1645	1644	1641	462
25°	1358	1400	1446	1402	1367	614
35°	757	833	1008	856	768	479
45°	372	411	460	415	378	292
55°	207	211	218	211	207	186
65°	127	128	127	127	127	127
75°	67	67	65	65	67	71
85°	18	18	18	18	18	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1752.5	1752.5	1752.5	1752.5	1752.5
2.5°	1753.8	1749.7	1751.1	1749.7	1751.1
5°	1742.9	1744.3	1742.9	1741.6	1744.3
7.5°	1730.7	1729.3	1729.3	1728.0	1730.7
10°	1708.9	1706.2	1710.2	1707.5	1707.5
12.5°	1678.9	1683.0	1681.7	1681.7	1678.9
15°	1643.5	1647.6	1644.9	1643.5	1640.8
17.5°	1602.7	1605.4	1606.8	1601.3	1601.3
20°	1550.9	1556.4	1559.1	1549.6	1545.5
22.5°	1465.2	1489.7	1504.6	1488.3	1467.9
25°	1357.6	1399.8	1446.1	1402.5	1367.1
27.5°	1228.2	1288.1	1371.2	1297.7	1228.2
30°	1064.8	1153.3	1269.1	1162.9	1068.9
32.5°	896.0	989.9	1152.0	1006.3	915.0
35°	757.1	833.3	1007.6	856.5	768.0
37.5°	637.3	702.6	856.5	717.6	644.1
40°	539.2	591.0	702.6	597.8	537.9
42.5°	445.3	494.3	569.2	501.1	450.7
45°	371.7	411.2	460.2	415.3	378.5
47.5°	309.1	341.8	377.2	341.8	313.2
50°	257.4	283.2	311.8	283.2	262.8
52.5°	230.1	238.3	257.4	239.7	230.1
55°	207.0	211.1	217.9	211.1	207.0
57.5°	185.2	187.9	186.5	186.5	185.2
60°	164.8	166.1	163.4	164.8	163.4
62.5°	145.7	145.7	143.0	145.7	144.3
65°	126.6	128.0	126.6	126.6	126.6
67.5°	110.3	110.3	108.9	110.3	110.3
70°	95.3	95.3	94.0	95.3	94.0
72.5°	80.3	80.3	79.0	79.0	79.0
75°	66.7	66.7	65.4	65.4	66.7
77.5°	53.1	53.1	51.7	53.1	53.1
80°	40.8	40.8	39.5	40.8	40.8
82.5°	28.6	28.6	28.6	30.0	30.0
85°	17.7	17.7	17.7	17.7	17.7
87.5°	8.2	8.2	8.2	8.2	9.5
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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