

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: P837439

Luminaire Tested: HCSQ430D010-HM43040830-41SQH

Issue Date: 5/17/2024

**Test Information**

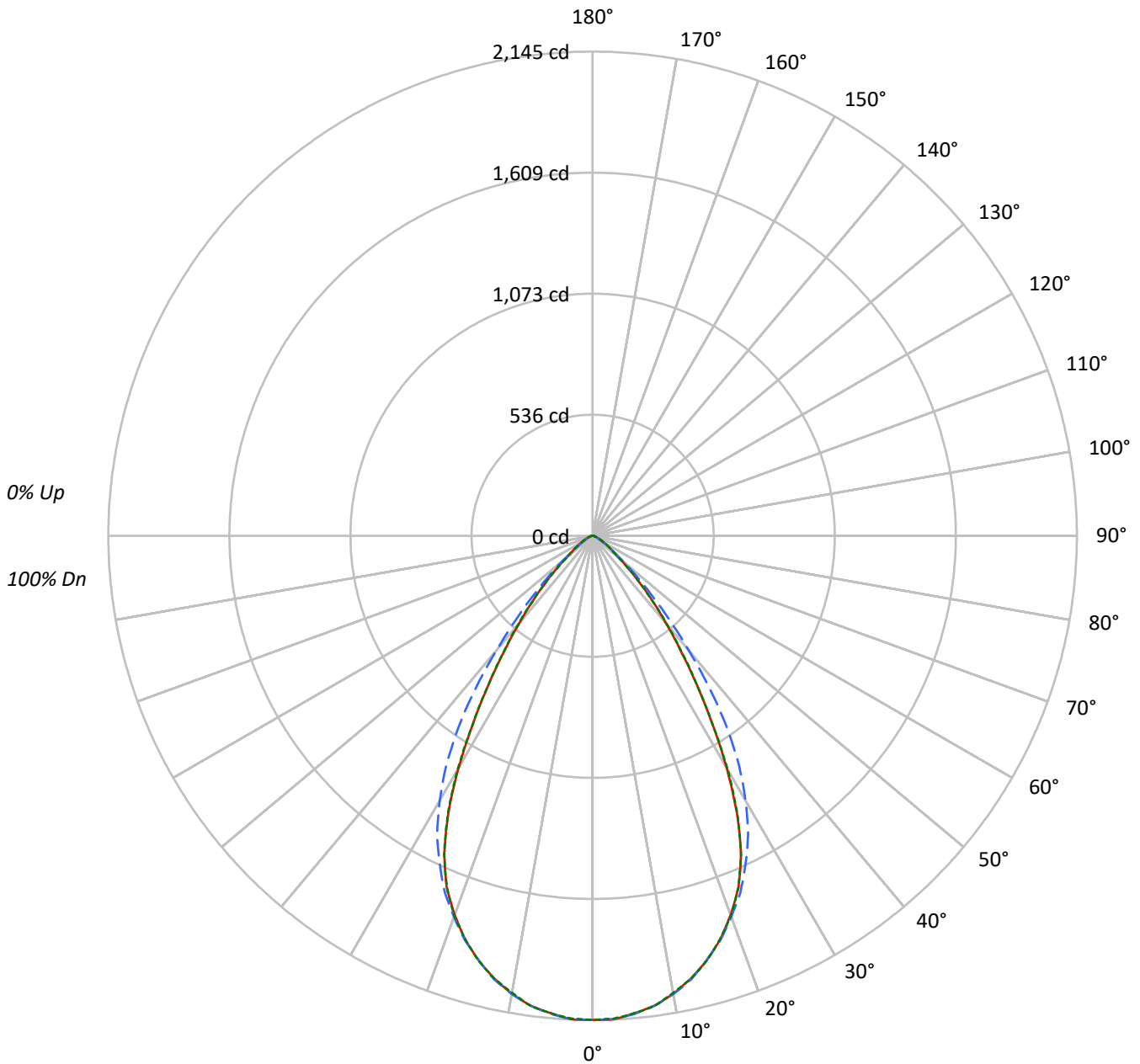
Test Method: LM-79-2019  
Report Number: P837439  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ430D010-HM43040830-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2411.0 lumens  
Efficiency: N/A  
Efficacy: 85.5 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01  
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					100			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85					85			
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77					77			
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71					71			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65					65			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60					60			
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56					56			
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52					52			
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48					48			
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45					45			

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

	0°	45°	90°
0°	207778	207778	207778
5°	206510	206773	206510
10°	202642	202780	202258
15°	195451	195310	195581
20°	184237	185196	184649
25°	166246	171345	166246
30°	132780	151607	133821
35°	94788	122674	94942
40°	64002	83427	65001
45°	40662	49362	40840
50°	23164	26359	22366
55°	15218	12752	14998
60°	10521	7440	10269
65°	7289	5456	7289
70°	5240	4135	5240
75°	3481	3481	3481
80°	2232	2957	2957
85°	2890	2890	2890

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 49362 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	200.9	8.3
10°-20°	546.4	22.7
20°-30°	715.4	29.7
30°-40°	562.2	23.3
40°-50°	262.6	10.9
50°-60°	81.4	3.4
60°-70°	29.0	1.2
70°-80°	10.2	0.4
80°-90°	2.8	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°	1462.7	60.7
0°-40°	2024.9	84.0
0°-60°	2368.9	98.3
0°-90°	2411.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2411.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2145	2145	2145	2145	2145	
5°	2124	2125	2126	2129	2124	201
15°	1949	1949	1947	1949	1950	546
25°	1555	1576	1603	1578	1555	699
35°	802	874	1037	885	803	505
45°	297	332	360	326	298	236
55°	90	85	76	84	89	84
65°	32	29	24	28	32	33
75°	9	9	9	9	9	11
85°	3	3	3	3	3	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2144.8	2144.8	2144.8	2144.8	2144.8
2.5°	2144.8	2142.2	2143.5	2140.9	2140.9
5°	2123.6	2125.0	2126.3	2128.9	2123.6
7.5°	2099.8	2102.4	2101.1	2101.1	2101.1
10°	2060.0	2061.4	2061.4	2061.4	2056.1
12.5°	2009.7	2012.3	2013.7	2009.7	2009.7
15°	1948.8	1948.8	1947.4	1948.8	1950.1
17.5°	1875.9	1879.9	1879.9	1875.9	1874.6
20°	1787.1	1793.8	1796.4	1791.1	1791.1
22.5°	1687.8	1694.4	1710.3	1697.0	1686.4
25°	1555.3	1576.5	1603.0	1577.8	1555.3
27.5°	1384.4	1430.8	1491.7	1438.7	1388.4
30°	1187.0	1262.5	1355.3	1266.5	1196.3
32.5°	985.6	1070.4	1206.9	1077.0	985.6
35°	801.5	874.4	1037.3	885.0	802.8
37.5°	637.2	707.4	850.5	715.4	646.5
40°	506.1	563.0	659.7	561.7	514.0
42.5°	394.8	435.9	499.4	434.5	393.5
45°	296.8	332.5	360.3	325.9	298.1
47.5°	218.6	242.4	258.3	238.5	213.3
50°	153.7	170.9	174.9	166.9	148.4
52.5°	115.3	115.3	116.6	113.9	112.6
55°	90.1	84.8	75.5	83.5	88.8
57.5°	70.2	64.9	53.0	62.3	68.9
60°	54.3	49.0	38.4	47.7	53.0
62.5°	42.4	37.1	30.5	37.1	41.1
65°	31.8	29.1	23.8	27.8	31.8
67.5°	23.8	21.2	18.5	21.2	23.8
70°	18.5	17.2	14.6	15.9	18.5
72.5°	13.2	11.9	11.9	11.9	13.2
75°	9.3	9.3	9.3	9.3	9.3
77.5°	6.6	6.6	6.6	6.6	6.6
80°	4.0	4.0	5.3	5.3	5.3
82.5°	2.6	2.6	4.0	4.0	4.0
85°	2.6	2.6	2.6	2.6	2.6
87.5°	1.3	1.3	1.3	2.6	2.6
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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