

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: P837453

Luminaire Tested: HCSQ430D010-HM43040927-41SQC

Issue Date: 5/17/2024



**Test Information**

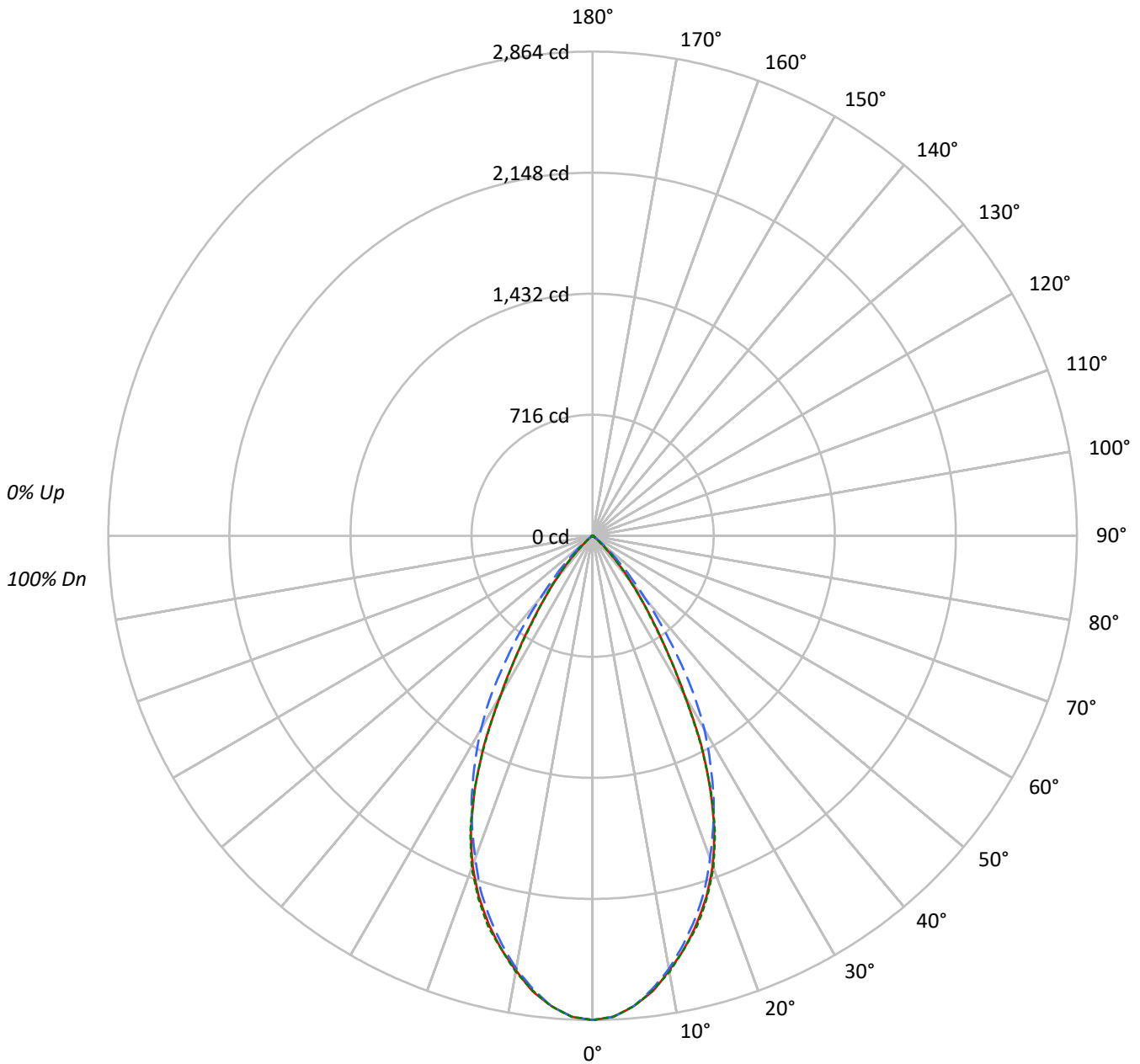
Test Method: LM-79-2019  
Report Number: P837453  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ430D010-HM43040927-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2314.8 lumens  
Efficiency: N/A  
Efficacy: 82.1 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): 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	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°	277500	277500	277500
5°	271548	271665	271665
10°	256844	255703	257532
15°	238316	235056	239600
20°	213928	209134	215247
25°	175706	180805	176326
30°	121460	147725	120554
35°	74790	104355	73004
40°	42188	61018	41897
45°	19276	30579	18482
50°	4913	12268	5079
55°	2365	3733	2162
60°	1569	1356	1802
65°	1330	1077	1330
70°	991	991	1331
75°	861	861	1310
80°	1283	1283	1283
85°	1334	2556	2556

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 30579 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	260.6	11.3
10°-20°	658.1	28.4
20°-30°	752.3	32.5
30°-40°	467.0	20.2
40°-50°	147.2	6.4
50°-60°	19.1	0.8
60°-70°	5.7	0.2
70°-80°	3.0	0.1
80°-90°	2.0	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°	1671.0	72.2
0°-40°	2137.9	92.4
0°-60°	2304.2	99.5
0°-90°	2314.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2314.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2864	2864	2864	2864	2864	
5°	2792	2790	2794	2791	2794	261
15°	2376	2359	2344	2359	2389	663
25°	1644	1667	1692	1667	1650	737
35°	632	730	882	713	617	406
45°	141	169	223	170	135	119
55°	14	14	22	14	13	14
65°	6	6	5	6	6	6
75°	2	2	2	2	4	3
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°	2864.5	2864.5	2864.5	2864.5	2864.5
2.5°	2847.0	2849.4	2847.0	2851.7	2847.0
5°	2792.4	2790.1	2793.6	2791.2	2793.6
7.5°	2718.0	2704.0	2702.9	2712.2	2713.3
10°	2611.0	2607.6	2599.4	2607.6	2618.0
12.5°	2501.8	2487.8	2476.2	2492.5	2501.8
15°	2376.2	2358.8	2343.7	2358.8	2389.0
17.5°	2237.9	2213.5	2200.7	2218.1	2247.2
20°	2075.1	2049.5	2028.6	2043.7	2087.9
22.5°	1879.8	1877.5	1863.5	1871.7	1887.9
25°	1643.8	1667.1	1691.5	1667.1	1649.6
27.5°	1384.6	1447.4	1503.2	1429.9	1374.1
30°	1085.8	1181.1	1320.6	1174.2	1077.7
32.5°	839.3	939.3	1117.2	926.5	832.4
35°	632.4	730.1	882.4	712.6	617.3
37.5°	465.0	538.3	670.8	533.6	465.0
40°	333.6	381.3	482.5	380.1	331.3
42.5°	231.3	262.7	337.1	260.4	224.4
45°	140.7	168.6	223.2	169.7	134.9
47.5°	74.4	107.0	140.7	102.3	74.4
50°	32.6	57.0	81.4	55.8	33.7
52.5°	17.4	24.4	44.2	24.4	17.4
55°	14.0	14.0	22.1	14.0	12.8
57.5°	10.5	10.5	11.6	10.5	10.5
60°	8.1	8.1	7.0	8.1	9.3
62.5°	7.0	7.0	5.8	7.0	7.0
65°	5.8	5.8	4.7	5.8	5.8
67.5°	4.7	4.7	4.7	4.7	4.7
70°	3.5	3.5	3.5	4.7	4.7
72.5°	3.5	3.5	3.5	3.5	3.5
75°	2.3	2.3	2.3	2.3	3.5
77.5°	2.3	2.3	2.3	2.3	2.3
80°	2.3	2.3	2.3	2.3	2.3
82.5°	1.2	2.3	2.3	2.3	2.3
85°	1.2	2.3	2.3	2.3	2.3
87.5°	1.2	1.2	2.3	2.3	2.3
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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