

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: P837493

Luminaire Tested: HCSQ435D010-HM43040927-41SQC

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837493  
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: HCSQ435D010-HM43040927-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

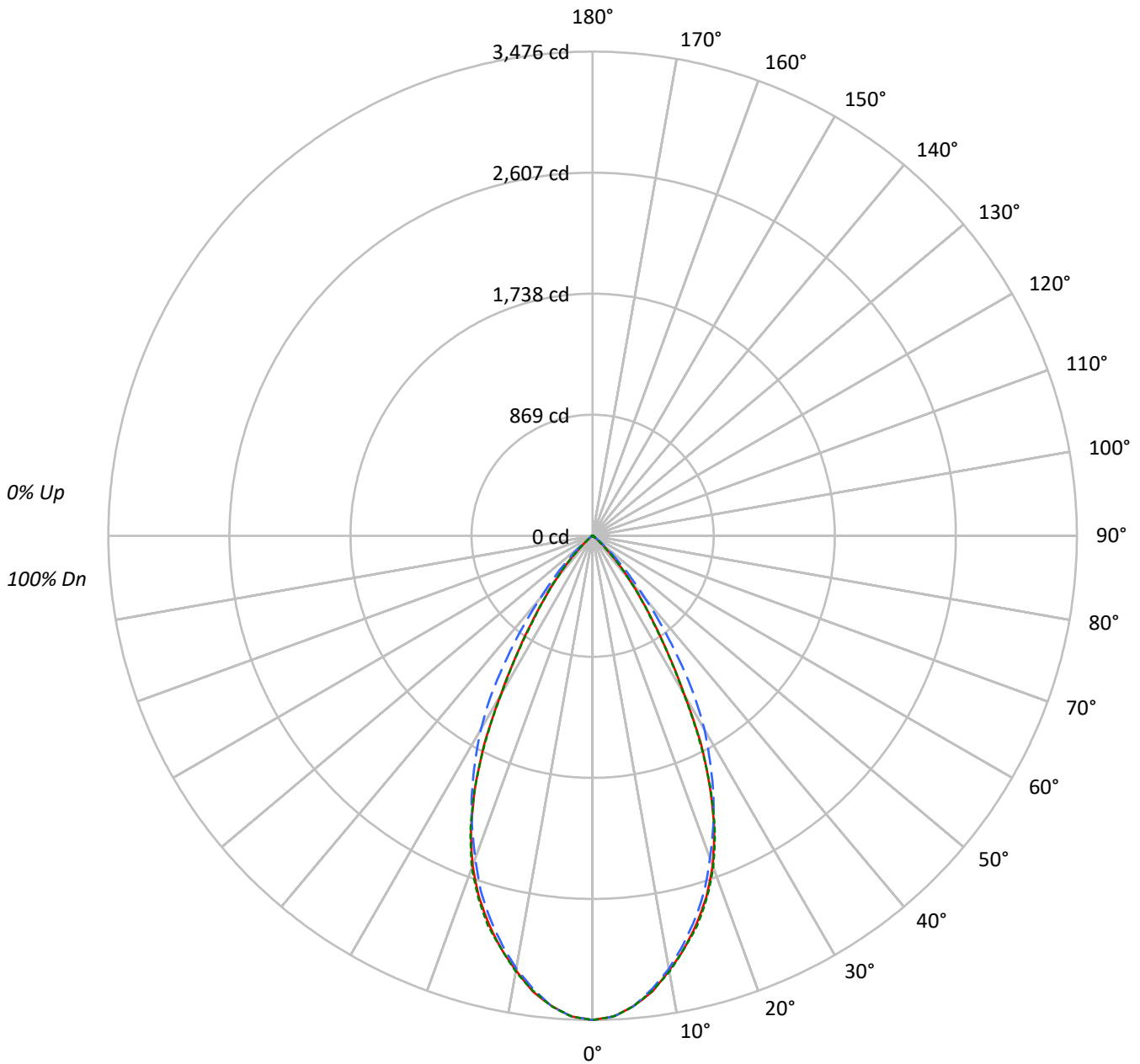
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2808.8 lumens  
Efficiency: N/A  
Efficacy: 82.6 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): 34  
Input Voltage (V): NR  
Input Current (Ain): 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°	336720	336720	336720
5°	329507	329643	329643
10°	311665	310278	312501
15°	289184	285223	290739
20°	259587	253773	261185
25°	213214	219392	213962
30°	147378	179259	146282
35°	90755	126624	88591
40°	51204	74031	50838
45°	23386	37100	22414
50°	5953	14875	6164
55°	2854	4526	2618
60°	1918	1647	2189
65°	1628	1284	1628
70°	1190	1190	1586
75°	1048	1048	1572
80°	1562	1562	1562
85°	1556	3112	3112

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 37100 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	316.2	11.3
10°-20°	798.5	28.4
20°-30°	912.9	32.5
30°-40°	566.7	20.2
40°-50°	178.6	6.4
50°-60°	23.1	0.8
60°-70°	6.8	0.2
70°-80°	3.6	0.1
80°-90°	2.4	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°	2027.6	72.2
0°-40°	2594.2	92.4
0°-60°	2795.9	99.5
0°-90°	2808.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2808.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3476	3476	3476	3476	3476	
5°	3388	3386	3390	3387	3390	317
15°	2883	2862	2844	2862	2899	804
25°	1995	2023	2052	2023	2002	895
35°	767	886	1071	865	749	493
45°	171	204	271	206	164	144
55°	17	17	27	17	16	17
65°	7	7	6	7	7	7
75°	3	3	3	3	4	4
85°	1	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°	3475.8	3475.8	3475.8	3475.8	3475.8
2.5°	3454.7	3457.5	3454.7	3460.3	3454.7
5°	3388.4	3385.6	3389.8	3387.0	3389.8
7.5°	3298.1	3281.2	3279.8	3291.0	3292.5
10°	3168.3	3164.1	3154.2	3164.1	3176.8
12.5°	3035.7	3018.8	3004.7	3024.4	3035.7
15°	2883.4	2862.2	2843.9	2862.2	2898.9
17.5°	2715.5	2685.9	2670.4	2691.5	2726.8
20°	2518.0	2487.0	2461.6	2479.9	2533.5
22.5°	2281.0	2278.2	2261.3	2271.1	2290.9
25°	1994.7	2022.9	2052.5	2022.9	2001.7
27.5°	1680.1	1756.3	1824.0	1735.1	1667.4
30°	1317.5	1433.2	1602.5	1424.8	1307.7
32.5°	1018.5	1139.8	1355.6	1124.3	1010.0
35°	767.4	885.9	1070.7	864.7	749.1
37.5°	564.3	653.1	813.9	647.5	564.3
40°	404.9	462.7	585.4	461.3	402.0
42.5°	280.7	318.8	409.1	316.0	272.3
45°	170.7	204.5	270.8	206.0	163.6
47.5°	90.3	129.8	170.7	124.1	90.3
50°	39.5	69.1	98.7	67.7	40.9
52.5°	21.2	29.6	53.6	29.6	21.2
55°	16.9	16.9	26.8	16.9	15.5
57.5°	12.7	12.7	14.1	12.7	12.7
60°	9.9	9.9	8.5	9.9	11.3
62.5°	8.5	8.5	7.1	8.5	8.5
65°	7.1	7.1	5.6	7.1	7.1
67.5°	5.6	5.6	5.6	5.6	5.6
70°	4.2	4.2	4.2	5.6	5.6
72.5°	4.2	4.2	4.2	4.2	4.2
75°	2.8	2.8	2.8	2.8	4.2
77.5°	2.8	2.8	2.8	2.8	2.8
80°	2.8	2.8	2.8	2.8	2.8
82.5°	1.4	2.8	2.8	2.8	2.8
85°	1.4	2.8	2.8	2.8	2.8
87.5°	1.4	1.4	2.8	2.8	2.8
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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