

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: P837537

Luminaire Tested: HCSQ440D010-HM43040927-41SQMW

Issue Date: 5/17/2024



**Test Information**

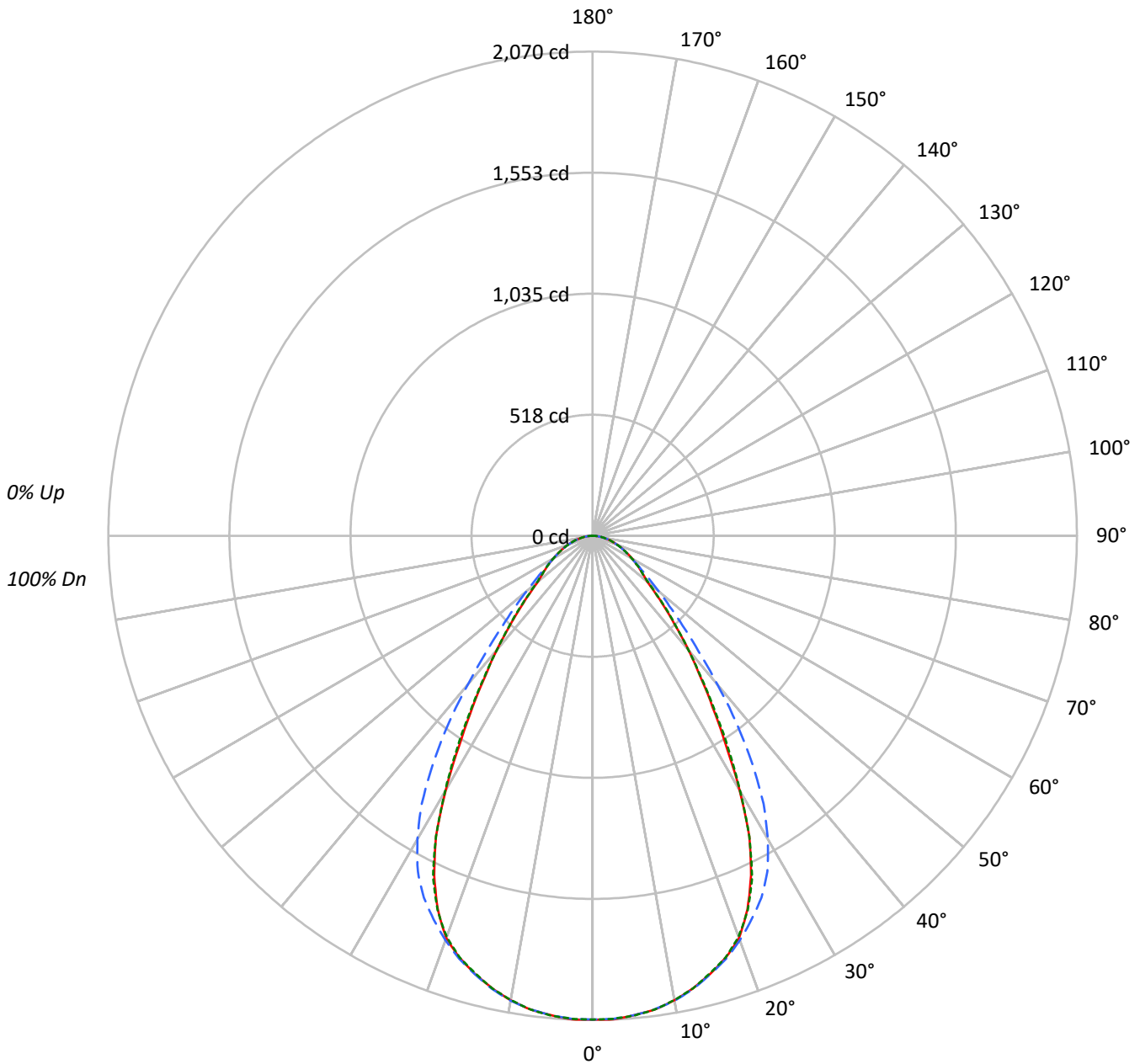
Test Method: LM-79-2019  
Report Number: P837537  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ440D010-HM43040927-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3001.7 lumens  
Efficiency: N/A  
Efficacy: 73.2 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): 41  
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	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°	200377	200377	200377
5°	200044	200044	200199
10°	198402	198560	198245
15°	194548	194708	194227
20°	188711	189711	188051
25°	171270	182440	172478
30°	140588	167547	141125
35°	105680	140650	107194
40°	80480	104875	80278
45°	60103	74420	61213
50°	45771	55462	46751
55°	41262	43423	41262
60°	37685	37375	37375
65°	34269	34269	34269
70°	31865	31412	31412
75°	29457	28858	29457
80°	26890	25997	26890
85°	23231	23231	23231

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 74420 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.1	6.5
10°-20°	546.1	18.2
20°-30°	751.1	25.0
30°-40°	639.4	21.3
40°-50°	386.2	12.9
50°-60°	227.6	7.6
60°-70°	149.3	5.0
70°-80°	82.8	2.8
80°-90°	24.2	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°	1492.2	49.7
0°-40°	2131.6	71.0
0°-60°	2745.4	91.5
0°-90°	3001.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3001.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2068	2068	2068	2068	2068	
5°	2057	2059	2057	2056	2059	195
15°	1940	1945	1941	1940	1937	546
25°	1602	1652	1707	1655	1614	724
35°	894	984	1189	1011	906	566
45°	439	485	543	490	447	345
55°	244	249	257	249	244	220
65°	150	151	150	150	150	150
75°	79	79	77	77	79	83
85°	21	21	21	21	21	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2068.4	2068.4	2068.4	2068.4	2068.4
2.5°	2070.0	2065.2	2066.8	2065.2	2066.8
5°	2057.1	2058.7	2057.1	2055.5	2058.7
7.5°	2042.7	2041.0	2041.0	2039.4	2042.7
10°	2016.9	2013.7	2018.5	2015.3	2015.3
12.5°	1981.6	1986.4	1984.8	1984.8	1981.6
15°	1939.8	1944.6	1941.4	1939.8	1936.6
17.5°	1891.6	1894.8	1896.4	1890.0	1890.0
20°	1830.5	1836.9	1840.2	1828.9	1824.1
22.5°	1729.3	1758.2	1775.9	1756.6	1732.5
25°	1602.3	1652.1	1706.8	1655.3	1613.6
27.5°	1449.6	1520.3	1618.4	1531.6	1449.6
30°	1256.8	1361.2	1497.8	1372.5	1261.6
32.5°	1057.5	1168.4	1359.6	1187.7	1080.0
35°	893.6	983.6	1189.3	1010.9	906.4
37.5°	752.1	829.3	1010.9	847.0	760.2
40°	636.4	697.5	829.3	705.5	634.8
42.5°	525.5	583.4	671.8	591.4	532.0
45°	438.7	485.4	543.2	490.2	446.8
47.5°	364.8	403.4	445.2	403.4	369.6
50°	303.7	334.3	368.0	334.3	310.2
52.5°	271.6	281.2	303.7	282.9	271.6
55°	244.3	249.1	257.1	249.1	244.3
57.5°	218.6	221.8	220.2	220.2	218.6
60°	194.5	196.1	192.9	194.5	192.9
62.5°	172.0	172.0	168.7	172.0	170.4
65°	149.5	151.1	149.5	149.5	149.5
67.5°	130.2	130.2	128.6	130.2	130.2
70°	112.5	112.5	110.9	112.5	110.9
72.5°	94.8	94.8	93.2	93.2	93.2
75°	78.7	78.7	77.1	77.1	78.7
77.5°	62.7	62.7	61.1	62.7	62.7
80°	48.2	48.2	46.6	48.2	48.2
82.5°	33.7	33.7	33.7	35.4	35.4
85°	20.9	20.9	20.9	20.9	20.9
87.5°	9.6	9.6	9.6	9.6	11.2
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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