

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: P838587

Luminaire Tested: HCSQ640D010-HM63040835-61SQMB

Issue Date: 5/21/2024

**Test Information**

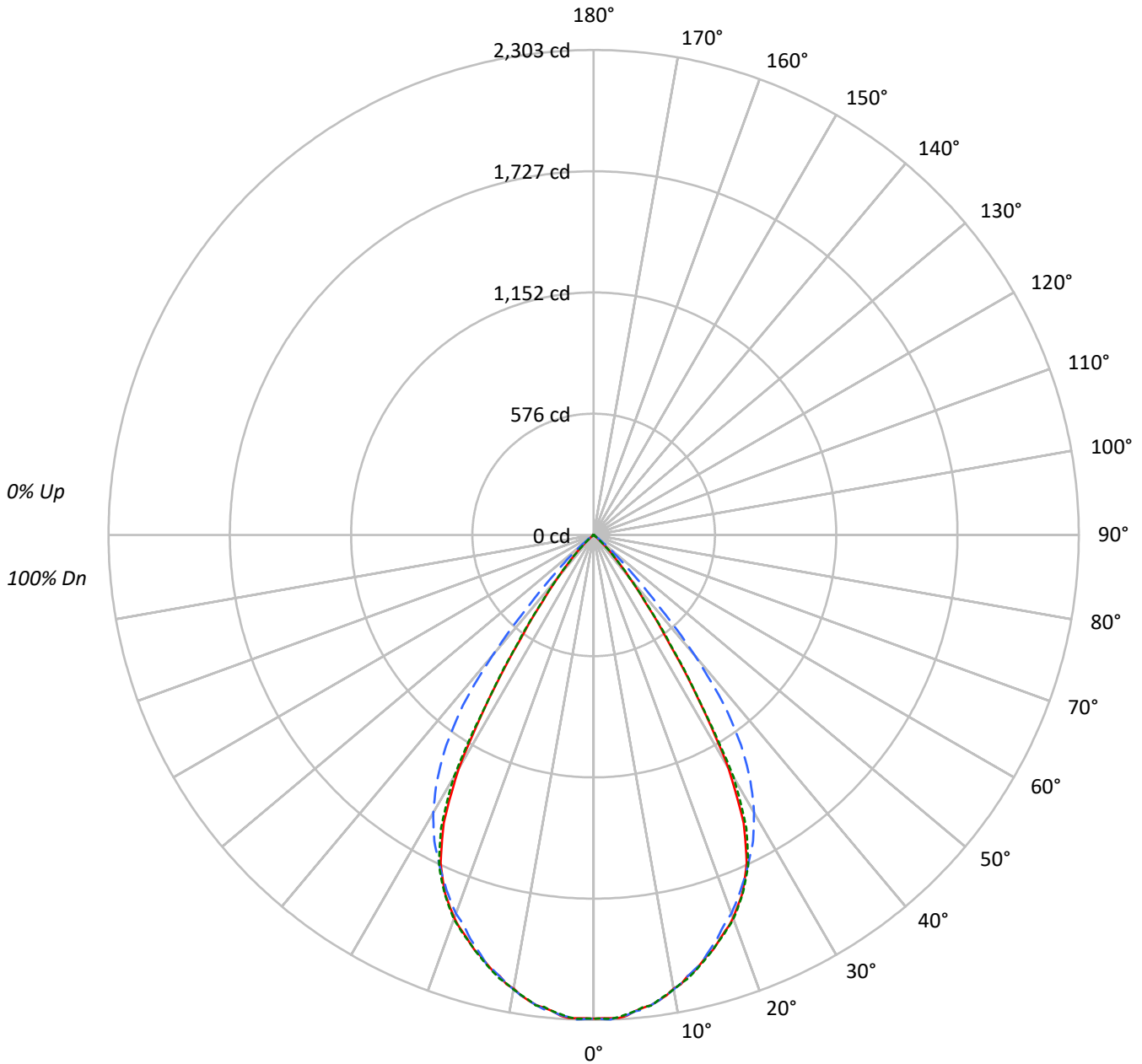
Test Method: LM-79-2019  
Report Number: P838587  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ640D010-HM63040835-61SQMB  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2283.4 lumens  
Efficiency: N/A  
Efficacy: 55.7 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.01 / 1.03  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41  
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									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	93																			
2	108	103	99	96	106	101	98	94	98	95	92	95	93	90	92	90	89	87																			
3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	85	82	81																			
4	97	89	84	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75																			
5	92	84	78	73	90	83	77	73	81	76	72	79	75	72	78	74	71	70																			
6	87	78	72	68	86	77	72	68	76	71	67	75	70	67	73	69	66	65																			
7	83	73	67	63	81	73	67	63	71	66	63	70	66	62	69	65	62	60																			
8	79	69	63	59	77	68	63	59	67	62	58	66	62	58	65	61	58	56																			
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53																			
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50																			

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

	0°	45°	90°
0°	98903	98903	98903
5°	98071	98149	98071
10°	95615	95777	95777
15°	92327	92078	92577
20°	88660	87638	88916
25°	81645	82267	82443
30°	63642	75703	66053
35°	32267	64146	33445
40°	14681	41952	14681
45°	5681	15795	5565
50°	877	4997	877
55°	278	983	278
60°	164	164	164
65°	194	0	194
70°	0	0	239
75°	0	0	316
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 15795 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	214.5	9.4
10°-20°	581.7	25.5
20°-30°	784.1	34.3
30°-40°	551.3	24.1
40°-50°	140.8	6.2
50°-60°	9.7	0.4
60°-70°	1.2	0.1
70°-80°	0.2	0.0
80°-90°	0.0	0.0
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°	1580.3	69.2
0°-40°	2131.6	93.4
0°-60°	2282.1	99.9
0°-90°	2283.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2283.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2297	2297	2297	2297	2297	
5°	2269	2273	2271	2273	2269	214
15°	2071	2068	2066	2071	2077	583
25°	1719	1724	1732	1737	1735	768
35°	614	814	1220	834	636	413
45°	93	140	259	142	91	81
55°	4	4	13	4	4	5
65°	2	2	0	2	2	2
75°	0	0	0	0	2	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2297.1	2297.1	2297.1	2297.1	2297.1
1°	2295.2	2297.1	2298.9	2298.9	2297.1
2°	2297.1	2291.5	2302.6	2297.1	2298.9
3°	2297.1	2285.9	2291.5	2295.2	2293.3
4°	2287.7	2280.3	2285.9	2284.0	2280.3
5°	2269.1	2272.8	2270.9	2272.8	2269.1
6°	2257.9	2261.6	2265.3	2259.7	2254.1
7°	2248.5	2246.7	2248.5	2252.3	2252.3
8°	2231.7	2235.5	2231.7	2233.6	2228.0
9°	2213.1	2213.1	2213.1	2216.8	2211.2
10°	2187.0	2196.3	2190.7	2194.4	2190.7
11°	2173.9	2170.2	2170.2	2172.0	2170.2
12°	2142.2	2145.9	2144.0	2147.8	2153.4
13°	2125.4	2127.2	2119.8	2129.1	2129.1
14°	2099.3	2097.4	2101.1	2099.3	2103.0
15°	2071.3	2067.5	2065.7	2071.3	2076.9
16°	2050.7	2041.4	2035.8	2043.3	2050.7
17°	2020.9	2011.6	2004.1	2019.0	2020.9
18°	1991.0	1987.3	1968.6	1987.3	1996.6
19°	1966.8	1953.7	1936.9	1957.4	1968.6
20°	1935.0	1923.9	1912.7	1923.9	1940.6
22.5°	1843.6	1834.3	1825.0	1838.0	1847.3
25°	1718.6	1724.2	1731.7	1737.2	1735.4
27.5°	1541.3	1591.7	1638.4	1608.5	1569.3
30°	1280.1	1407.0	1522.7	1427.5	1328.6
32.5°	927.4	1143.9	1384.6	1186.8	936.7
35°	613.9	813.6	1220.4	834.1	636.3
37.5°	399.3	546.7	1018.8	548.6	418.0
40°	261.2	356.4	746.4	363.9	261.2
42.5°	160.5	225.8	453.4	235.1	160.5
45°	93.3	140.0	259.4	141.8	91.4
47.5°	42.9	76.5	147.4	74.6	44.8
50°	13.1	33.6	74.6	33.6	13.1
52.5°	5.6	9.3	35.5	9.3	5.6
55°	3.7	3.7	13.1	3.7	3.7
57.5°	3.7	1.9	3.7	3.7	3.7
60°	1.9	1.9	1.9	1.9	1.9
62.5°	1.9	1.9	1.9	1.9	1.9
65°	1.9	1.9	0.0	1.9	1.9
67.5°	1.9	0.0	0.0	0.0	1.9
70°	0.0	0.0	0.0	0.0	1.9
72.5°	0.0	0.0	0.0	0.0	1.9
75°	0.0	0.0	0.0	0.0	1.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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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77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0

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(END OF REPORT)