

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: P838578

Luminaire Tested: HCSQ640D010-HM63040827-61SQMW

Issue Date: 5/21/2024



**Test Information**

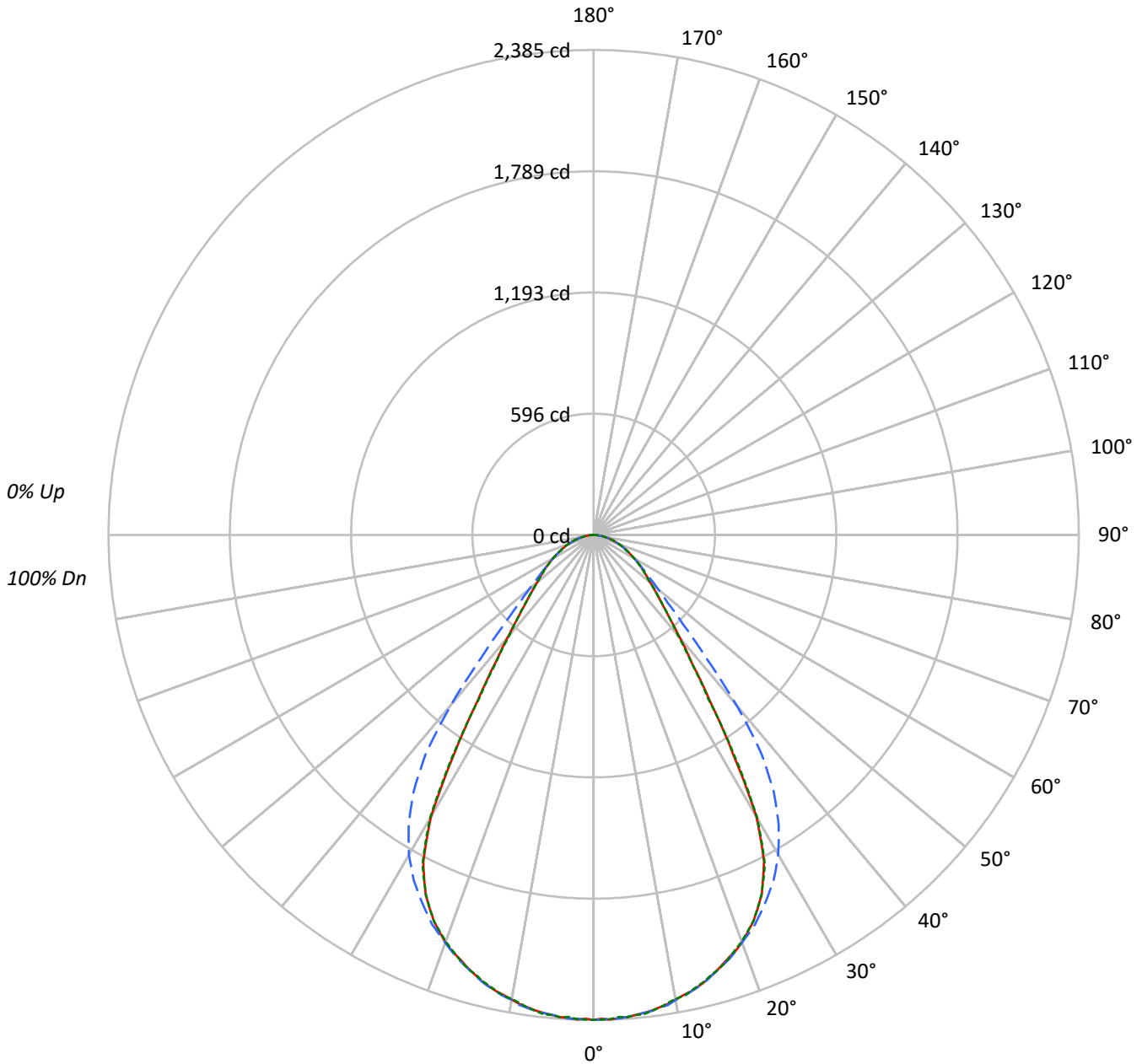
Test Method: LM-79-2019  
Report Number: P838578  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ640D010-HM63040827-61SQMW  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3518.6 lumens  
Efficiency: N/A  
Efficacy: 85.8 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
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					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	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	77	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	67	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	80	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	51	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°	102705	102705	102705
5°	102449	102380	102449
10°	101448	101522	101303
15°	99940	100012	99789
20°	97690	97764	97461
25°	92814	94795	92733
30°	79477	90250	79974
35°	52220	81134	51431
40°	36916	61179	36258
45°	28624	37654	28825
50°	24342	27470	24120
55°	21897	22527	21897
60°	19806	19806	19806
65°	18175	18002	18002
70°	16579	16579	16793
75°	15537	14972	15255
80°	13637	13637	13637
85°	11510	11510	11510

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 37654 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	224.9	6.4
10°-20°	631.6	17.9
20°-30°	900.0	25.6
30°-40°	767.4	21.8
40°-50°	424.5	12.1
50°-60°	267.4	7.6
60°-70°	177.5	5.0
70°-80°	97.6	2.8
80°-90°	27.8	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°	1756.4	49.9
0°-40°	2523.8	71.7
0°-60°	3215.7	91.4
0°-90°	3518.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3518.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2385	2385	2385	2385	2385	
5°	2370	2374	2369	2365	2370	225
15°	2242	2242	2244	2242	2239	631
25°	1954	1977	1995	1975	1952	883
35°	994	1172	1544	1174	978	646
45°	470	515	618	512	473	373
55°	292	297	300	295	292	262
65°	178	180	177	178	177	177
75°	93	92	90	92	92	98
85°	23	23	23	25	23	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2385.4	2385.4	2385.4	2385.4	2385.4
1°	2380.4	2383.8	2383.8	2382.1	2383.8
2°	2385.4	2380.4	2380.4	2380.4	2382.1
3°	2378.8	2382.1	2382.1	2377.1	2373.8
4°	2377.1	2375.4	2375.4	2380.4	2377.1
5°	2370.4	2373.8	2368.8	2365.4	2370.4
6°	2363.8	2365.4	2363.8	2365.4	2370.4
7°	2355.4	2360.4	2358.8	2357.1	2357.1
8°	2345.4	2352.1	2348.8	2348.8	2347.1
9°	2335.4	2337.1	2340.4	2340.4	2330.4
10°	2320.4	2325.4	2322.1	2323.8	2317.1
11°	2307.1	2313.8	2312.1	2308.8	2310.4
12°	2295.4	2298.8	2297.1	2292.1	2293.8
13°	2280.4	2283.7	2282.1	2282.1	2277.1
14°	2263.7	2260.4	2265.4	2262.1	2260.4
15°	2242.1	2242.1	2243.7	2242.1	2238.7
16°	2222.1	2223.7	2223.7	2222.1	2223.7
17°	2198.7	2205.4	2203.7	2200.4	2202.1
18°	2177.1	2182.1	2183.7	2182.1	2177.1
19°	2157.1	2160.4	2158.7	2152.1	2152.1
20°	2132.1	2133.7	2133.7	2130.4	2127.1
22.5°	2053.7	2065.4	2073.7	2067.0	2053.7
25°	1953.7	1977.0	1995.4	1975.4	1952.0
27.5°	1813.7	1860.3	1915.3	1865.3	1822.0
30°	1598.6	1705.3	1815.3	1715.3	1608.6
32.5°	1271.9	1481.9	1692.0	1501.9	1291.9
35°	993.5	1171.9	1543.6	1173.5	978.5
37.5°	793.5	920.2	1353.6	911.8	785.1
40°	656.8	741.8	1088.5	738.5	645.1
42.5°	548.4	613.4	815.1	606.8	548.4
45°	470.1	515.1	618.4	511.8	473.4
47.5°	411.7	440.1	495.1	438.4	411.7
50°	363.4	380.1	410.1	378.4	360.1
52.5°	325.1	335.1	346.7	331.7	321.7
55°	291.7	296.7	300.1	295.1	291.7
57.5°	260.0	263.4	261.7	260.0	258.4
60°	230.0	231.7	230.0	231.7	230.0
62.5°	203.4	205.0	201.7	203.4	201.7
65°	178.4	180.0	176.7	178.4	176.7
67.5°	155.0	155.0	155.0	155.0	153.4
70°	131.7	133.4	131.7	133.4	133.4
72.5°	111.7	111.7	110.0	111.7	111.7
75°	93.4	91.7	90.0	91.7	91.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	<i>40.0</i>	40.0	38.3	40.0	40.0
85°	<i>23.3</i>	23.3	23.3	25.0	23.3
87.5°	<i>11.7</i>	10.0	10.0	11.7	11.7
90°	<i>0.0</i>	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°	73.3	73.3	71.7	73.3	73.3
80°	55.0	56.7	55.0	56.7	55.0

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(END OF REPORT)