

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: P838741

Luminaire Tested: HCSQ660D010-HM64560830-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838741
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ660D010-HM64560830-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

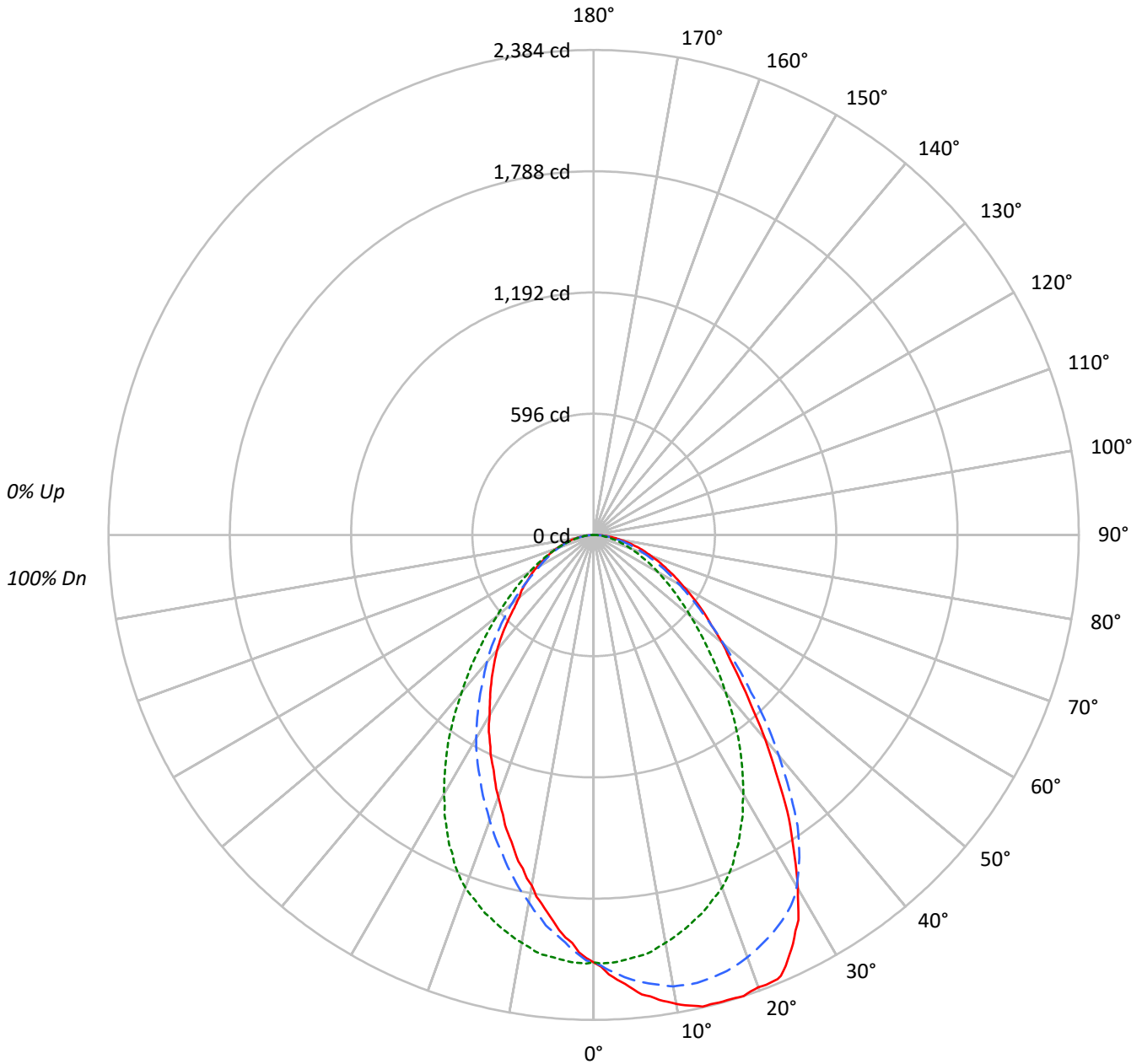
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3972.8 lumens
Efficiency: N/A
Efficacy: 70.9 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.17
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 56
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

TEST NUMBER: P838741
CATALOG NUMBER: HCSQ660D010-HM64560830-61SQLWW

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87								
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75								
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66								
4	87	76	69	63	85	75	68	62	73	66	62	71	65	61	68	64	60	58								
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	53	51								
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46								
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42								
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	34	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	203526	203526	203526	203526	203526
5°	218083	213600	203214	192711	189648
10°	230343	221711	200252	180332	172147
15°	238677	225819	195591	167168	156567
20°	243948	227721	190154	153979	141227
25°	243325	227698	179608	141138	127916
30°	224440	223310	164560	129078	114234
35°	196317	206564	147379	115448	103480
40°	165842	178785	127436	103256	93304
45°	140222	149771	109095	90600	81667
50°	124412	125603	93562	78988	71874
55°	111320	107520	80919	67998	67626
60°	99375	93708	70603	58842	63628
65°	91255	83278	61364	54648	58269
70°	84095	74536	54156	50984	54156
75°	79127	66513	47162	46301	49669
80°	72804	59610	41395	42678	45189
85°	72471	53742	35013	35013	40015

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 151004 cd/sqm



TEST NUMBER: P838741

CATALOG NUMBER: HCSQ660D010-HM64560830-61SQLWW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.2	5.0
10°-20°	552.3	13.9
20°-30°	787.8	19.8
30°-40°	811.9	20.4
40°-50°	653.6	16.5
50°-60°	462.2	11.6
60°-70°	299.5	7.5
70°-80°	160.9	4.1
80°-90°	46.5	1.2
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°	1538.3	38.7
0°-40°	2350.2	59.2
0°-60°	3465.9	87.2
0°-90°	3972.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3972.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2101	2101	2101	2101	2101	
5°	2243	2196	2090	1982	1950	217
15°	2380	2252	1950	1667	1561	673
25°	2276	2130	1680	1320	1197	1036
35°	1660	1747	1246	976	875	1030
45°	1024	1093	796	661	596	800
55°	659	637	479	403	400	589
65°	398	363	268	238	254	397
75°	211	178	126	124	133	224
85°	65	48	32	32	36	72
90°	0	0	0	0	0	



TEST NUMBER: P838741

CATALOG NUMBER: HCSQ660D010-HM64560830-61SQLWW

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	2100.9	2100.9	2100.9	2100.9	2100.9	2100.9	2100.9	2100.9	2100.9	2100.9	2100.9
1°	2123.4	2132.4	2125.7	2125.7	2118.9	2116.7	2121.2	2114.4	2112.2	2107.7	2098.7
2°	2161.7	2154.9	2152.7	2154.9	2141.4	2141.4	2134.7	2121.2	2114.4	2105.4	2080.7
3°	2188.6	2184.1	2179.6	2177.4	2163.9	2152.7	2143.7	2127.9	2114.4	2103.2	2067.2
4°	2213.4	2213.4	2208.9	2199.9	2186.4	2172.9	2154.9	2136.9	2116.7	2096.4	2049.2
5°	2242.6	2244.9	2224.6	2222.4	2206.6	2186.4	2166.2	2141.4	2116.7	2089.7	2037.9
6°	2271.9	2260.6	2256.1	2240.4	2217.9	2199.9	2175.1	2148.2	2114.4	2082.9	2013.2
7°	2285.4	2283.1	2271.9	2256.1	2235.9	2206.6	2181.9	2145.9	2109.9	2078.4	1995.2
8°	2307.9	2307.9	2294.4	2274.1	2244.9	2217.9	2186.4	2143.7	2107.7	2067.2	1970.5
9°	2323.6	2323.6	2305.6	2287.6	2260.6	2224.6	2188.6	2141.4	2096.4	2049.2	1948.0
10°	2341.6	2337.1	2323.6	2296.6	2274.1	2233.6	2188.6	2139.2	2089.7	2035.7	1925.5
11°	2355.1	2348.4	2332.6	2312.4	2276.4	2235.9	2188.6	2139.2	2080.7	2022.2	1903.0
12°	2366.3	2361.8	2341.6	2316.9	2280.9	2240.4	2186.4	2130.2	2064.9	2004.2	1873.7
13°	2379.8	2366.3	2346.1	2323.6	2283.1	2235.9	2177.4	2116.7	2053.7	1988.5	1849.0
14°	2377.6	2375.3	2357.3	2325.9	2280.9	2231.4	2175.1	2103.2	2037.9	1970.5	1819.7
15°	2379.8	2377.6	2357.3	2328.1	2278.6	2224.6	2168.4	2094.2	2022.2	1950.2	1790.5
16°	2379.8	2379.8	2352.8	2323.6	2276.4	2217.9	2154.9	2085.2	2006.4	1934.5	1765.8
17°	2379.8	2379.8	2357.3	2316.9	2269.6	2213.4	2141.4	2067.2	1988.5	1912.0	1729.8
18°	2384.3	2377.6	2348.4	2314.6	2260.6	2202.1	2132.4	2053.7	1972.7	1887.2	1705.0
19°	2373.1	2368.6	2343.9	2301.1	2253.9	2188.6	2118.9	2037.9	1957.0	1867.0	1675.8
20°	2366.3	2373.1	2339.4	2294.4	2240.4	2177.4	2105.4	2022.2	1934.5	1844.5	1646.5
21°	2368.6	2366.3	2330.4	2283.1	2231.4	2161.7	2089.7	2004.2	1909.7	1817.5	1619.6
22.5°	2364.1	2357.3	2319.1	2267.4	2204.4	2141.4	2062.7	1975.0	1873.7	1770.3	1567.8
23°	2355.1	2348.4	2319.1	2262.9	2195.4	2132.4	2049.2	1957.0	1860.2	1754.5	1554.3
24°	2319.1	2316.9	2303.4	2247.1	2184.1	2114.4	2033.4	1927.7	1819.7	1709.5	1520.6
25°	2276.4	2280.9	2274.1	2238.1	2166.2	2094.2	2008.7	1891.7	1781.5	1680.3	1480.1
26°	2235.9	2235.9	2231.4	2217.9	2148.2	2071.7	1972.7	1849.0	1743.3	1637.5	1437.4
27°	2184.1	2193.1	2184.1	2177.4	2130.2	2046.9	1934.5	1819.7	1700.5	1597.1	1401.4
28°	2143.7	2143.7	2139.2	2127.9	2112.2	2017.7	1894.0	1777.0	1660.0	1561.1	1360.9
29°	2071.7	2085.2	2087.4	2089.7	2087.4	1979.5	1855.7	1729.8	1617.3	1509.3	1322.6
30°	2006.4	2019.9	2028.9	2044.7	2046.9	1945.7	1810.7	1691.5	1576.8	1471.1	1288.9
32.5°	1828.7	1853.5	1878.2	1905.2	1918.7	1844.5	1700.5	1570.1	1453.1	1358.6	1185.4
35°	1660.0	1666.8	1693.8	1756.8	1770.3	1723.0	1570.1	1446.4	1336.1	1246.2	1088.7
37.5°	1468.8	1482.3	1520.6	1592.6	1597.1	1558.8	1453.1	1309.1	1205.7	1126.9	989.7
40°	1311.4	1318.1	1345.1	1405.9	1426.1	1401.4	1309.1	1178.7	1084.2	1007.7	895.3
42.5°	1153.9	1162.9	1196.7	1243.9	1273.1	1243.9	1162.9	1050.5	958.2	902.0	805.3
45°	1023.5	1034.7	1066.2	1093.2	1102.2	1084.2	1012.2	920.0	854.8	796.3	722.1
47.5°	911.0	922.2	944.7	956.0	967.2	949.2	893.0	816.5	751.3	704.1	636.6
50°	825.5	823.3	839.0	843.5	843.5	823.3	776.0	713.1	659.1	620.8	564.6
52.5°	728.8	733.3	744.5	740.0	737.8	719.8	679.3	625.3	580.3	546.6	494.9
55°	659.1	652.3	659.1	654.6	645.6	627.6	591.6	546.6	508.4	479.1	431.9
57.5°	582.6	582.6	584.8	575.8	564.6	544.3	512.9	476.9	443.1	418.4	380.1
60°	512.9	517.4	515.1	506.1	494.9	472.4	447.6	411.6	382.4	364.4	328.4



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	348.7	348.7	341.9	335.2	319.4	299.2	281.2	258.7	242.9	227.2	204.7
70°	296.9	301.4	292.4	281.2	269.9	256.4	236.2	218.2	202.4	191.2	173.2
72.5°	256.4	254.2	247.4	236.2	227.2	211.4	193.4	180.0	166.5	157.5	144.0
75°	211.4	211.4	204.7	195.7	184.4	171.0	157.5	146.2	135.0	126.0	119.2
77.5°	168.7	171.0	164.2	157.5	148.5	135.0	123.7	114.7	105.7	99.0	94.5
80°	130.5	132.7	126.0	121.5	110.2	103.5	94.5	85.5	78.7	74.2	72.0
82.5°	99.0	96.7	92.2	90.0	81.0	74.2	65.2	60.7	56.2	51.7	51.7
85°	65.2	63.0	60.7	58.5	51.7	45.0	42.7	38.2	33.7	31.5	31.5
87.5°	33.7	33.7	31.5	29.2	27.0	22.5	20.2	15.7	13.5	13.5	13.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P838741

CATALOG NUMBER: HCSQ660D010-HM64560830-61SQLWW

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	2100.9	2100.9	2100.9
1°	2091.9	2082.9	2080.7
2°	2064.9	2051.4	2053.7
3°	2040.2	2024.4	2008.7
4°	2008.7	1984.0	1984.0
5°	1981.7	1957.0	1950.2
6°	1957.0	1916.5	1907.5
7°	1934.5	1885.0	1869.2
8°	1896.2	1846.7	1831.0
9°	1869.2	1815.2	1799.5
10°	1833.2	1779.3	1750.0
11°	1804.0	1743.3	1720.8
12°	1772.5	1698.3	1675.8
13°	1736.5	1660.0	1646.5
14°	1702.8	1628.6	1603.8
15°	1666.8	1590.3	1561.1
16°	1628.6	1552.1	1525.1
17°	1597.1	1511.6	1491.3
18°	1565.6	1475.6	1444.1
19°	1527.3	1441.9	1405.9
20°	1493.6	1399.1	1369.9
21°	1457.6	1367.6	1336.1
22.5°	1408.1	1306.9	1277.6
23°	1392.4	1288.9	1257.4
24°	1356.4	1252.9	1225.9
25°	1320.4	1225.9	1196.7
26°	1288.9	1185.4	1158.4
27°	1257.4	1153.9	1124.7
28°	1223.7	1120.2	1097.7
29°	1189.9	1084.2	1061.7
30°	1153.9	1059.5	1021.2
32.5°	1064.0	978.5	947.0
35°	976.2	902.0	875.0
37.5°	890.8	830.0	805.3
40°	816.5	762.5	737.8
42.5°	740.0	690.6	665.8
45°	661.3	620.8	596.1
47.5°	589.3	555.6	528.6
50°	524.1	490.4	476.9
52.5°	461.1	438.6	445.4
55°	402.6	402.6	400.4
57.5°	346.4	362.1	364.4
60°	303.7	323.9	328.4



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	209.2	220.4	224.9
70°	180.0	188.9	191.2
72.5°	153.0	159.7	164.2
75°	123.7	132.7	132.7
77.5°	101.2	105.7	108.0
80°	76.5	78.7	81.0
82.5°	54.0	56.2	58.5
85°	31.5	33.7	36.0
87.5°	13.5	13.5	13.5
90°	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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Scaled Data Report





62.5°	454.4	458.9	452.1	440.9	429.6	409.4	386.9	355.4	332.9	314.9	283.4
65°	398.1	400.4	395.9	384.6	373.4	353.2	330.7	303.7	285.7	267.7	240.7

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62.5°	272.2	287.9	290.2
65°	238.4	251.9	254.2

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Scaled Data Report



(END OF REPORT)