

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: P838731

Luminaire Tested: HCSQ655D010-HM64560940-61SQLWW

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838731  
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: HCSQ655D010-HM64560940-61SQLWW  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

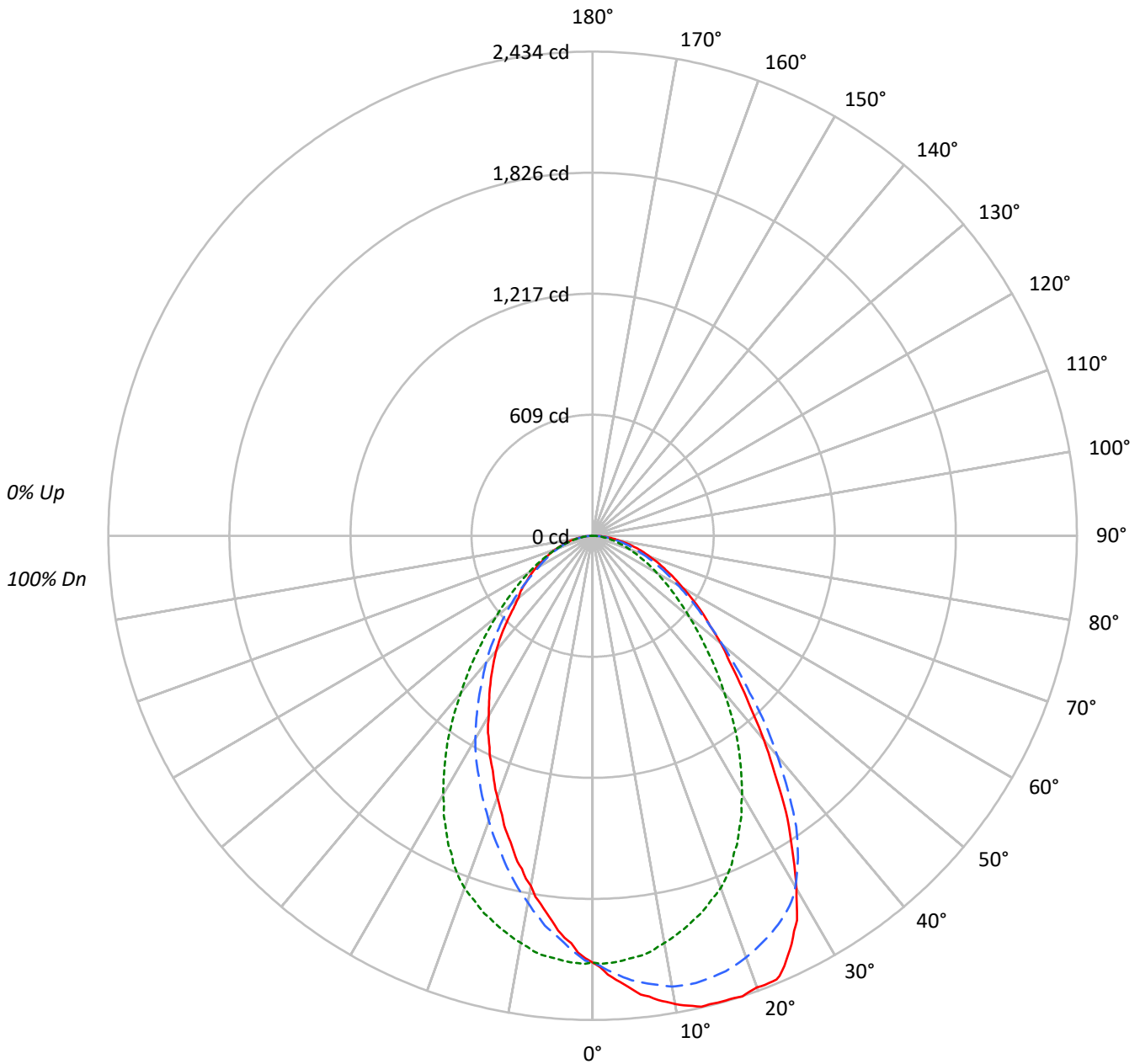
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4056.5 lumens  
Efficiency: N/A  
Efficacy: 75.1 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): 54  
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

TEST NUMBER: P838731

CATALOG NUMBER: HCSQ655D010-HM64560940-61SQLWW

### Luminous Intensity Polar Plot





TEST NUMBER: P838731

CATALOG NUMBER: HCSQ655D010-HM64560940-61SQLWW

**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	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°	207817	207817	207817	207817	207817
5°	222673	218097	207493	196766	193645
10°	235193	226384	204462	184129	175777
15°	243702	230578	199713	170688	159857
20°	249093	232515	194154	157216	144196
25°	248445	232492	183392	144109	130609
30°	229172	228014	168028	131796	116639
35°	200456	210910	150478	117885	105656
40°	169332	182548	130117	105431	95264
45°	143168	152922	111383	92504	83380
50°	127035	128248	95536	80646	73381
55°	113651	109783	82624	69434	69045
60°	101467	95674	72095	60082	64965
65°	93181	85032	62648	55817	59484
70°	85880	76108	55289	52032	55289
75°	80811	67916	48135	47274	50717
80°	74310	60837	42288	43571	46137
85°	74027	54854	35791	35791	40793

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 45°  
 Luminance: 154183 cd/sqm



TEST NUMBER: P838731

CATALOG NUMBER: HCSQ655D010-HM64560940-61SQLWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	202.3	5.0
10°-20°	563.9	13.9
20°-30°	804.4	19.8
30°-40°	829.0	20.4
40°-50°	667.3	16.5
50°-60°	471.9	11.6
60°-70°	305.8	7.5
70°-80°	164.3	4.1
80°-90°	47.5	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°	1570.7	38.7
0°-40°	2399.7	59.2
0°-60°	3538.9	87.2
0°-90°	4056.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4056.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2145	2145	2145	2145	2145	
5°	2290	2243	2134	2023	1991	222
15°	2430	2299	1991	1702	1594	687
25°	2324	2175	1716	1348	1222	1058
35°	1695	1783	1272	997	893	1052
45°	1045	1116	813	675	609	817
55°	673	650	489	411	409	602
65°	406	371	273	244	260	406
75°	216	181	129	126	136	229
85°	67	49	32	32	37	73
90°	0	0	0	0	0	



TEST NUMBER: P838731

CATALOG NUMBER: HCSQ655D010-HM64560940-61SQLWW

**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	2145.2	2145.2	2145.2	2145.2	2145.2	2145.2	2145.2	2145.2	2145.2	2145.2	2145.2
1°	2168.1	2177.3	2170.4	2170.4	2163.5	2161.2	2165.8	2158.9	2156.6	2152.0	2142.9
2°	2207.2	2200.3	2198.0	2200.3	2186.5	2186.5	2179.6	2165.8	2158.9	2149.7	2124.5
3°	2234.7	2230.1	2225.5	2223.2	2209.5	2198.0	2188.8	2172.7	2158.9	2147.4	2110.7
4°	2260.0	2260.0	2255.4	2246.2	2232.4	2218.6	2200.3	2181.9	2161.2	2140.6	2092.3
5°	2289.8	2292.1	2271.5	2269.2	2253.1	2232.4	2211.8	2186.5	2161.2	2133.7	2080.8
6°	2319.7	2308.2	2303.6	2287.6	2264.6	2246.2	2220.9	2193.4	2158.9	2126.8	2055.6
7°	2333.5	2331.2	2319.7	2303.6	2283.0	2253.1	2227.8	2191.1	2154.3	2122.2	2037.2
8°	2356.5	2356.5	2342.7	2322.0	2292.1	2264.6	2232.4	2188.8	2152.0	2110.7	2011.9
9°	2372.5	2372.5	2354.2	2335.8	2308.2	2271.5	2234.7	2186.5	2140.6	2092.3	1989.0
10°	2390.9	2386.3	2372.5	2345.0	2322.0	2280.7	2234.7	2184.2	2133.7	2078.5	1966.0
11°	2404.7	2397.8	2381.7	2361.0	2324.3	2283.0	2234.7	2184.2	2124.5	2064.8	1943.0
12°	2416.2	2411.6	2390.9	2365.6	2328.9	2287.6	2232.4	2175.0	2108.4	2046.4	1913.2
13°	2429.9	2416.2	2395.5	2372.5	2331.2	2283.0	2223.2	2161.2	2096.9	2030.3	1887.9
14°	2427.7	2425.4	2407.0	2374.8	2328.9	2278.4	2220.9	2147.4	2080.8	2011.9	1858.1
15°	2429.9	2427.7	2407.0	2377.1	2326.6	2271.5	2214.1	2138.3	2064.8	1991.3	1828.2
16°	2429.9	2429.9	2402.4	2372.5	2324.3	2264.6	2200.3	2129.1	2048.7	1975.2	1802.9
17°	2429.9	2429.9	2407.0	2365.6	2317.4	2260.0	2186.5	2110.7	2030.3	1952.2	1766.2
18°	2434.5	2427.7	2397.8	2363.3	2308.2	2248.5	2177.3	2096.9	2014.2	1927.0	1740.9
19°	2423.1	2418.5	2393.2	2349.6	2301.3	2234.7	2163.5	2080.8	1998.2	1906.3	1711.1
20°	2416.2	2423.1	2388.6	2342.7	2287.6	2223.2	2149.7	2064.8	1975.2	1883.3	1681.2
21°	2418.5	2416.2	2379.4	2331.2	2278.4	2207.2	2133.7	2046.4	1949.9	1855.8	1653.7
22.5°	2413.9	2407.0	2367.9	2315.1	2250.8	2186.5	2106.1	2016.5	1913.2	1807.5	1600.8
23°	2404.7	2397.8	2367.9	2310.5	2241.6	2177.3	2092.3	1998.2	1899.4	1791.5	1587.0
24°	2367.9	2365.6	2351.9	2294.4	2230.1	2158.9	2076.3	1968.3	1858.1	1745.5	1552.6
25°	2324.3	2328.9	2322.0	2285.3	2211.8	2138.3	2051.0	1931.6	1819.0	1715.7	1511.3
26°	2283.0	2283.0	2278.4	2264.6	2193.4	2115.3	2014.2	1887.9	1780.0	1672.0	1467.6
27°	2230.1	2239.3	2230.1	2223.2	2175.0	2090.0	1975.2	1858.1	1736.3	1630.7	1430.9
28°	2188.8	2188.8	2184.2	2172.7	2156.6	2060.2	1933.9	1814.4	1695.0	1593.9	1389.5
29°	2115.3	2129.1	2131.4	2133.7	2131.4	2021.1	1894.8	1766.2	1651.4	1541.1	1350.5
30°	2048.7	2062.5	2071.7	2087.7	2090.0	1986.7	1848.9	1727.1	1610.0	1502.1	1316.0
32.5°	1867.2	1892.5	1917.8	1945.3	1959.1	1883.3	1736.3	1603.1	1483.7	1387.2	1210.4
35°	1695.0	1701.9	1729.4	1793.8	1807.5	1759.3	1603.1	1476.8	1364.3	1272.4	1111.6
37.5°	1499.8	1513.6	1552.6	1626.1	1630.7	1591.6	1483.7	1336.7	1231.1	1150.7	1010.6
40°	1339.0	1345.9	1373.4	1435.5	1456.1	1430.9	1336.7	1203.5	1107.0	1028.9	914.1
42.5°	1178.2	1187.4	1221.9	1270.1	1300.0	1270.1	1187.4	1072.6	978.4	921.0	822.2
45°	1045.0	1056.5	1088.7	1116.2	1125.4	1107.0	1033.5	939.4	872.8	813.0	737.3
47.5°	930.2	941.7	964.6	976.1	987.6	969.2	911.8	833.7	767.1	718.9	650.0
50°	842.9	840.6	856.7	861.3	861.3	840.6	792.4	728.1	672.9	633.9	576.5
52.5°	744.1	748.7	760.2	755.6	753.3	735.0	693.6	638.5	592.6	558.1	505.3
55°	672.9	666.1	672.9	668.4	659.2	640.8	604.0	558.1	519.1	489.2	441.0
57.5°	594.9	594.9	597.2	588.0	576.5	555.8	523.7	486.9	452.5	427.2	388.1
60°	523.7	528.2	526.0	516.8	505.3	482.3	457.1	420.3	390.4	372.1	335.3



TEST NUMBER: P838731

CATALOG NUMBER: HCSQ655D010-HM64560940-61SQLWW

**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	356.0	356.0	349.1	342.2	326.1	305.5	287.1	264.1	248.0	232.0	209.0
70°	303.2	307.8	298.6	287.1	275.6	261.8	241.2	222.8	206.7	195.2	176.8
72.5°	261.8	259.5	252.6	241.2	232.0	215.9	197.5	183.7	170.0	160.8	147.0
75°	215.9	215.9	209.0	199.8	188.3	174.6	160.8	149.3	137.8	128.6	121.7
77.5°	172.3	174.6	167.7	160.8	151.6	137.8	126.3	117.1	107.9	101.1	96.5
80°	133.2	135.5	128.6	124.0	112.5	105.6	96.5	87.3	80.4	75.8	73.5
82.5°	101.1	98.8	94.2	91.9	82.7	75.8	66.6	62.0	57.4	52.8	52.8
85°	66.6	64.3	62.0	59.7	52.8	45.9	43.6	39.0	34.5	32.2	32.2
87.5°	34.5	34.5	32.2	29.9	27.6	23.0	20.7	16.1	13.8	13.8	13.8
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: P838731

CATALOG NUMBER: HCSQ655D010-HM64560940-61SQLWW

**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	2145.2	2145.2	2145.2
1°	2136.0	2126.8	2124.5
2°	2108.4	2094.6	2096.9
3°	2083.1	2067.1	2051.0
4°	2051.0	2025.7	2025.7
5°	2023.4	1998.2	1991.3
6°	1998.2	1956.8	1947.6
7°	1975.2	1924.7	1908.6
8°	1936.1	1885.6	1869.5
9°	1908.6	1853.5	1837.4
10°	1871.8	1816.7	1786.9
11°	1842.0	1780.0	1757.0
12°	1809.8	1734.0	1711.1
13°	1773.1	1695.0	1681.2
14°	1738.6	1662.8	1637.6
15°	1701.9	1623.8	1593.9
16°	1662.8	1584.7	1557.2
17°	1630.7	1543.4	1522.7
18°	1598.5	1506.7	1474.5
19°	1559.5	1472.2	1435.5
20°	1525.0	1428.6	1398.7
21°	1488.3	1396.4	1364.3
22.5°	1437.8	1334.4	1304.5
23°	1421.7	1316.0	1283.9
24°	1384.9	1279.3	1251.7
25°	1348.2	1251.7	1221.9
26°	1316.0	1210.4	1182.8
27°	1283.9	1178.2	1148.4
28°	1249.4	1143.8	1120.8
29°	1215.0	1107.0	1084.1
30°	1178.2	1081.8	1042.7
32.5°	1086.4	999.1	966.9
35°	996.8	921.0	893.4
37.5°	909.5	847.5	822.2
40°	833.7	778.6	753.3
42.5°	755.6	705.1	679.8
45°	675.2	633.9	608.6
47.5°	601.7	567.3	539.7
50°	535.1	500.7	486.9
52.5°	470.8	447.9	454.8
55°	411.1	411.1	408.8
57.5°	353.7	369.8	372.1
60°	310.1	330.7	335.3





TEST NUMBER: P838731

CATALOG NUMBER: HCSQ655D010-HM64560940-61SQLWW

**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	213.6	225.1	229.7
70°	183.7	192.9	195.2
72.5°	156.2	163.1	167.7
75°	126.3	135.5	135.5
77.5°	103.4	107.9	110.2
80°	78.1	80.4	82.7
82.5°	55.1	57.4	59.7
85°	32.2	34.5	36.7
87.5°	13.8	13.8	13.8
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



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





— 0°-180°    - - 45°-225°    - - - - 90°-270°

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





62.5°	463.9	468.5	461.6	450.2	438.7	418.0	395.0	362.9	339.9	321.5	289.4
65°	406.5	408.8	404.2	392.7	381.3	360.6	337.6	310.1	291.7	273.3	245.8

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



62.5°	277.9	294.0	296.3
65°	243.5	257.2	259.5

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)