

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: P838721

Luminaire Tested: HCSQ655D010-HM64560930-61SQLWW

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838721  
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-HM64560930-61SQLWW  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

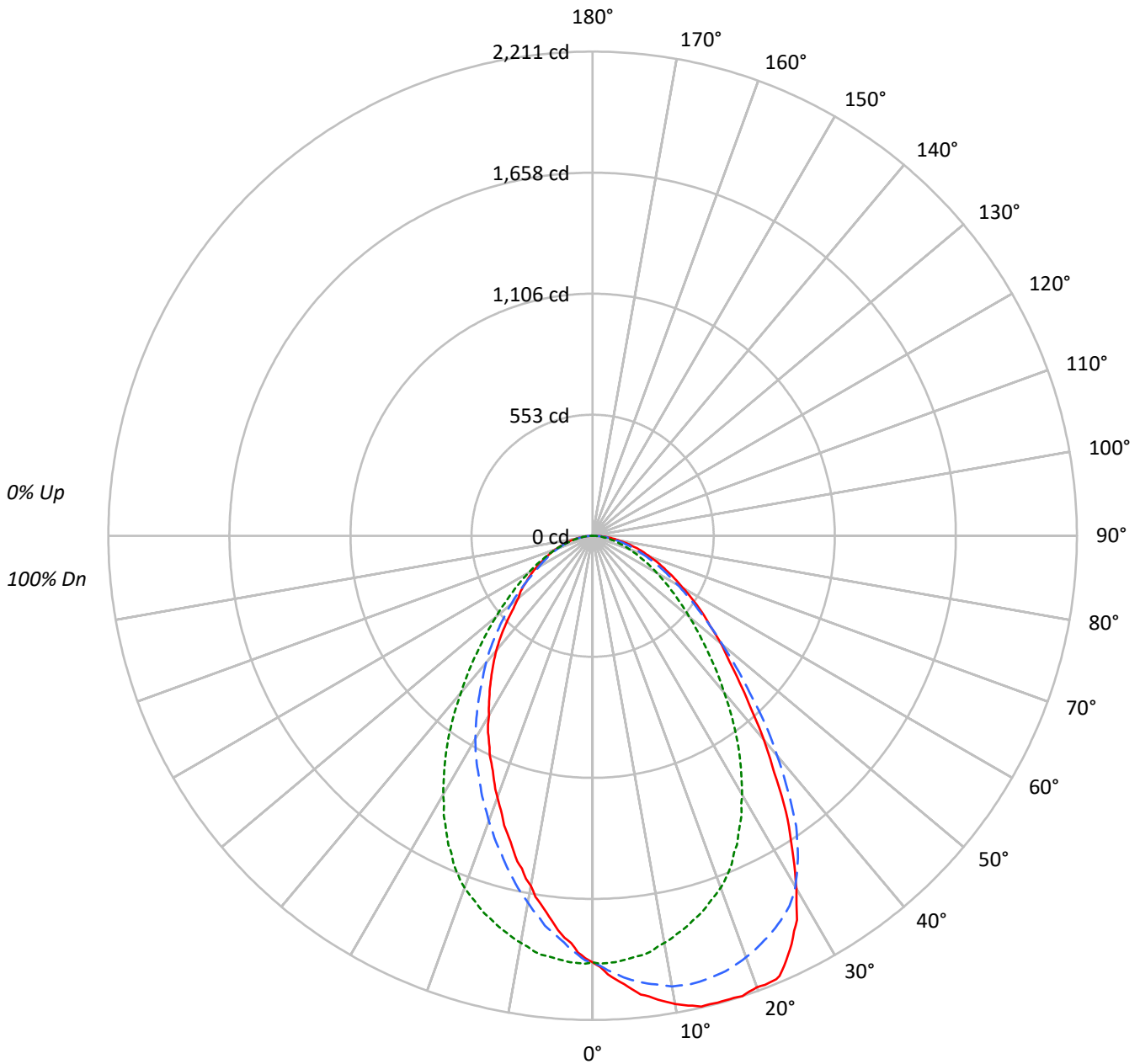
Lumens per Lamp: N/A  
Luminaire Lumens: 3683.8 lumens  
Efficiency: N/A  
Efficacy: 68.2 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.17  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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: P838721

CATALOG NUMBER: HCSQ655D010-HM64560930-61SQLWW

### Luminous Intensity Polar Plot





TEST NUMBER: P838721

CATALOG NUMBER: HCSQ655D010-HM64560930-61SQLWW

**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	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°	188723	188723	188723	188723	188723
5°	202222	198060	188423	178689	175849
10°	213581	205583	185683	167219	159625
15°	221316	209391	181360	155003	145174
20°	226206	211154	176319	142773	130948
25°	225624	211130	166535	130866	118605
30°	208119	207068	152591	119692	105922
35°	182042	191539	136653	107052	95947
40°	153778	165779	118166	95744	86513
45°	130015	138873	101149	84010	75721
50°	115370	116462	86765	73246	66645
55°	103213	99692	75041	63049	62712
60°	92129	86888	65468	54560	58997
65°	84631	77215	56894	50682	54029
70°	77977	69126	50219	47274	50219
75°	73400	61666	43718	42932	46076
80°	67504	55258	38382	39554	41897
85°	67247	49852	32456	32456	37125

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 45°  
 Luminance: 140017 cd/sqm



TEST NUMBER: P838721

CATALOG NUMBER: HCSQ655D010-HM64560930-61SQLWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.7	5.0
10°-20°	512.1	13.9
20°-30°	730.5	19.8
30°-40°	752.8	20.4
40°-50°	606.0	16.5
50°-60°	428.5	11.6
60°-70°	277.7	7.5
70°-80°	149.2	4.1
80°-90°	43.1	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°	1426.4	38.7
0°-40°	2179.2	59.2
0°-60°	3213.8	87.2
0°-90°	3683.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3683.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1948	1948	1948	1948	1948	
5°	2080	2037	1938	1838	1808	201
15°	2207	2088	1808	1546	1448	624
25°	2111	1975	1558	1224	1110	961
35°	1539	1620	1156	905	811	956
45°	949	1014	738	613	553	741
55°	611	590	444	373	371	547
65°	369	337	248	221	236	368
75°	196	165	117	115	123	208
85°	60	45	29	29	33	66
90°	0	0	0	0	0	



TEST NUMBER: P838721

CATALOG NUMBER: HCSQ655D010-HM64560930-61SQLWW

**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	1948.1	1948.1	1948.1	1948.1	1948.1	1948.1	1948.1	1948.1	1948.1	1948.1	1948.1
1°	1968.9	1977.3	1971.0	1971.0	1964.8	1962.7	1966.8	1960.6	1958.5	1954.3	1946.0
2°	2004.4	1998.1	1996.0	1998.1	1985.6	1985.6	1979.4	1966.8	1960.6	1952.2	1929.3
3°	2029.4	2025.2	2021.1	2019.0	2006.5	1996.0	1987.7	1973.1	1960.6	1950.2	1916.8
4°	2052.4	2052.4	2048.2	2039.8	2027.3	2014.8	1998.1	1981.4	1962.7	1943.9	1900.1
5°	2079.5	2081.6	2062.8	2060.7	2046.1	2027.3	2008.6	1985.6	1962.7	1937.6	1889.7
6°	2106.6	2096.2	2092.0	2077.4	2056.5	2039.8	2016.9	1991.9	1960.6	1931.4	1866.7
7°	2119.1	2117.0	2106.6	2092.0	2073.2	2046.1	2023.2	1989.8	1956.4	1927.2	1850.0
8°	2140.0	2140.0	2127.4	2108.7	2081.6	2056.5	2027.3	1987.7	1954.3	1916.8	1827.1
9°	2154.6	2154.6	2137.9	2121.2	2096.2	2062.8	2029.4	1985.6	1943.9	1900.1	1806.2
10°	2171.2	2167.1	2154.6	2129.5	2108.7	2071.1	2029.4	1983.5	1937.6	1887.6	1785.4
11°	2183.8	2177.5	2162.9	2144.1	2110.8	2073.2	2029.4	1983.5	1929.3	1875.1	1764.5
12°	2194.2	2190.0	2171.2	2148.3	2114.9	2077.4	2027.3	1975.2	1914.7	1858.4	1737.4
13°	2206.7	2194.2	2175.4	2154.6	2117.0	2073.2	2019.0	1962.7	1904.3	1843.8	1714.5
14°	2204.6	2202.5	2185.8	2156.6	2114.9	2069.0	2016.9	1950.2	1889.7	1827.1	1687.4
15°	2206.7	2204.6	2185.8	2158.7	2112.8	2062.8	2010.6	1941.8	1875.1	1808.3	1660.2
16°	2206.7	2206.7	2181.7	2154.6	2110.8	2056.5	1998.1	1933.5	1860.5	1793.7	1637.3
17°	2206.7	2206.7	2185.8	2148.3	2104.5	2052.4	1985.6	1916.8	1843.8	1772.9	1603.9
18°	2210.9	2204.6	2177.5	2146.2	2096.2	2041.9	1977.3	1904.3	1829.2	1749.9	1581.0
19°	2200.4	2196.3	2173.3	2133.7	2089.9	2029.4	1964.8	1889.7	1814.6	1731.2	1553.9
20°	2194.2	2200.4	2169.2	2127.4	2077.4	2019.0	1952.2	1875.1	1793.7	1710.3	1526.8
21°	2196.3	2194.2	2160.8	2117.0	2069.0	2004.4	1937.6	1858.4	1770.8	1685.3	1501.7
22.5°	2192.1	2185.8	2150.4	2102.4	2044.0	1985.6	1912.6	1831.3	1737.4	1641.5	1453.8
23°	2183.8	2177.5	2150.4	2098.2	2035.7	1977.3	1900.1	1814.6	1724.9	1626.9	1441.2
24°	2150.4	2148.3	2135.8	2083.6	2025.2	1960.6	1885.5	1787.5	1687.4	1585.2	1410.0
25°	2110.8	2114.9	2108.7	2075.3	2008.6	1941.8	1862.6	1754.1	1651.9	1558.0	1372.4
26°	2073.2	2073.2	2069.0	2056.5	1991.9	1921.0	1829.2	1714.5	1616.4	1518.4	1332.8
27°	2025.2	2033.6	2025.2	2019.0	1975.2	1898.0	1793.7	1687.4	1576.8	1480.9	1299.4
28°	1987.7	1987.7	1983.5	1973.1	1958.5	1870.9	1756.2	1647.7	1539.3	1447.5	1261.9
29°	1921.0	1933.5	1935.6	1937.6	1935.6	1835.4	1720.7	1603.9	1499.6	1399.5	1226.4
30°	1860.5	1873.0	1881.3	1895.9	1898.0	1804.2	1679.0	1568.5	1462.1	1364.1	1195.1
32.5°	1695.7	1718.6	1741.6	1766.6	1779.1	1710.3	1576.8	1455.8	1347.4	1259.8	1099.2
35°	1539.3	1545.5	1570.6	1629.0	1641.5	1597.7	1455.8	1341.1	1238.9	1155.5	1009.5
37.5°	1362.0	1374.5	1410.0	1476.7	1480.9	1445.4	1347.4	1213.9	1118.0	1045.0	917.7
40°	1216.0	1222.2	1247.3	1303.6	1322.4	1299.4	1213.9	1092.9	1005.3	934.4	830.1
42.5°	1070.0	1078.3	1109.6	1153.4	1180.5	1153.4	1078.3	974.0	888.5	836.4	746.7
45°	949.0	959.4	988.6	1013.7	1022.0	1005.3	938.6	853.1	792.6	738.3	669.5
47.5°	844.7	855.1	876.0	886.4	896.9	880.2	828.0	757.1	696.6	652.8	590.3
50°	765.5	763.4	778.0	782.1	782.1	763.4	719.6	661.2	611.1	575.7	523.5
52.5°	675.8	679.9	690.4	686.2	684.1	667.4	629.9	579.8	538.1	506.8	458.9
55°	611.1	604.9	611.1	606.9	598.6	581.9	548.5	506.8	471.4	444.3	400.5
57.5°	540.2	540.2	542.3	533.9	523.5	504.7	475.5	442.2	410.9	387.9	352.5
60°	475.5	479.7	477.6	469.3	458.9	438.0	415.1	381.7	354.6	337.9	304.5



TEST NUMBER: P838721

CATALOG NUMBER: HCSQ655D010-HM64560930-61SQLWW

**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	323.3	323.3	317.0	310.8	296.2	277.4	260.7	239.9	225.3	210.7	189.8
70°	275.3	279.5	271.1	260.7	250.3	237.8	219.0	202.3	187.7	177.3	160.6
72.5°	237.8	235.7	229.4	219.0	210.7	196.1	179.4	166.9	154.3	146.0	133.5
75°	196.1	196.1	189.8	181.5	171.0	158.5	146.0	135.6	125.1	116.8	110.5
77.5°	156.4	158.5	152.3	146.0	137.7	125.1	114.7	106.4	98.0	91.8	87.6
80°	121.0	123.1	116.8	112.6	102.2	95.9	87.6	79.3	73.0	68.8	66.7
82.5°	91.8	89.7	85.5	83.4	75.1	68.8	60.5	56.3	52.1	48.0	48.0
85°	60.5	58.4	56.3	54.2	48.0	41.7	39.6	35.5	31.3	29.2	29.2
87.5°	31.3	31.3	29.2	27.1	25.0	20.9	18.8	14.6	12.5	12.5	12.5
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: P838721

CATALOG NUMBER: HCSQ655D010-HM64560930-61SQLWW

**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	1948.1	1948.1	1948.1
1°	1939.7	1931.4	1929.3
2°	1914.7	1902.2	1904.3
3°	1891.8	1877.2	1862.6
4°	1862.6	1839.6	1839.6
5°	1837.5	1814.6	1808.3
6°	1814.6	1777.0	1768.7
7°	1793.7	1747.8	1733.2
8°	1758.3	1712.4	1697.8
9°	1733.2	1683.2	1668.6
10°	1699.9	1649.8	1622.7
11°	1672.8	1616.4	1595.6
12°	1643.6	1574.7	1553.9
13°	1610.2	1539.3	1526.8
14°	1578.9	1510.1	1487.1
15°	1545.5	1474.6	1447.5
16°	1510.1	1439.2	1414.1
17°	1480.9	1401.6	1382.8
18°	1451.7	1368.2	1339.0
19°	1416.2	1337.0	1303.6
20°	1384.9	1297.3	1270.2
21°	1351.6	1268.1	1238.9
22.5°	1305.7	1211.8	1184.7
23°	1291.1	1195.1	1165.9
24°	1257.7	1161.8	1136.7
25°	1224.3	1136.7	1109.6
26°	1195.1	1099.2	1074.2
27°	1165.9	1070.0	1042.9
28°	1134.6	1038.7	1017.8
29°	1103.4	1005.3	984.5
30°	1070.0	982.4	946.9
32.5°	986.6	907.3	878.1
35°	905.2	836.4	811.3
37.5°	825.9	769.6	746.7
40°	757.1	707.1	684.1
42.5°	686.2	640.3	617.4
45°	613.2	575.7	552.7
47.5°	546.5	515.2	490.1
50°	486.0	454.7	442.2
52.5°	427.6	406.7	413.0
55°	373.3	373.3	371.3
57.5°	321.2	335.8	337.9
60°	281.6	300.3	304.5





TEST NUMBER: P838721

CATALOG NUMBER: HCSQ655D010-HM64560930-61SQLWW

**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	194.0	204.4	208.6
70°	166.9	175.2	177.3
72.5°	141.8	148.1	152.3
75°	114.7	123.1	123.1
77.5°	93.9	98.0	100.1
80°	70.9	73.0	75.1
82.5°	50.1	52.1	54.2
85°	29.2	31.3	33.4
87.5°	12.5	12.5	12.5
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



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°	421.3	425.5	419.2	408.8	398.4	379.6	358.7	329.5	308.7	292.0	262.8
65°	369.2	371.3	367.1	356.7	346.2	327.5	306.6	281.6	264.9	248.2	223.2

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°	252.4	267.0	269.1
65°	221.1	233.6	235.7

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

Scaled Data Report



(END OF REPORT)