

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: P838716

Luminaire Tested: HCSQ655D010-HM64560927-61SQLWW

Issue Date: 5/21/2024

**Test Information**

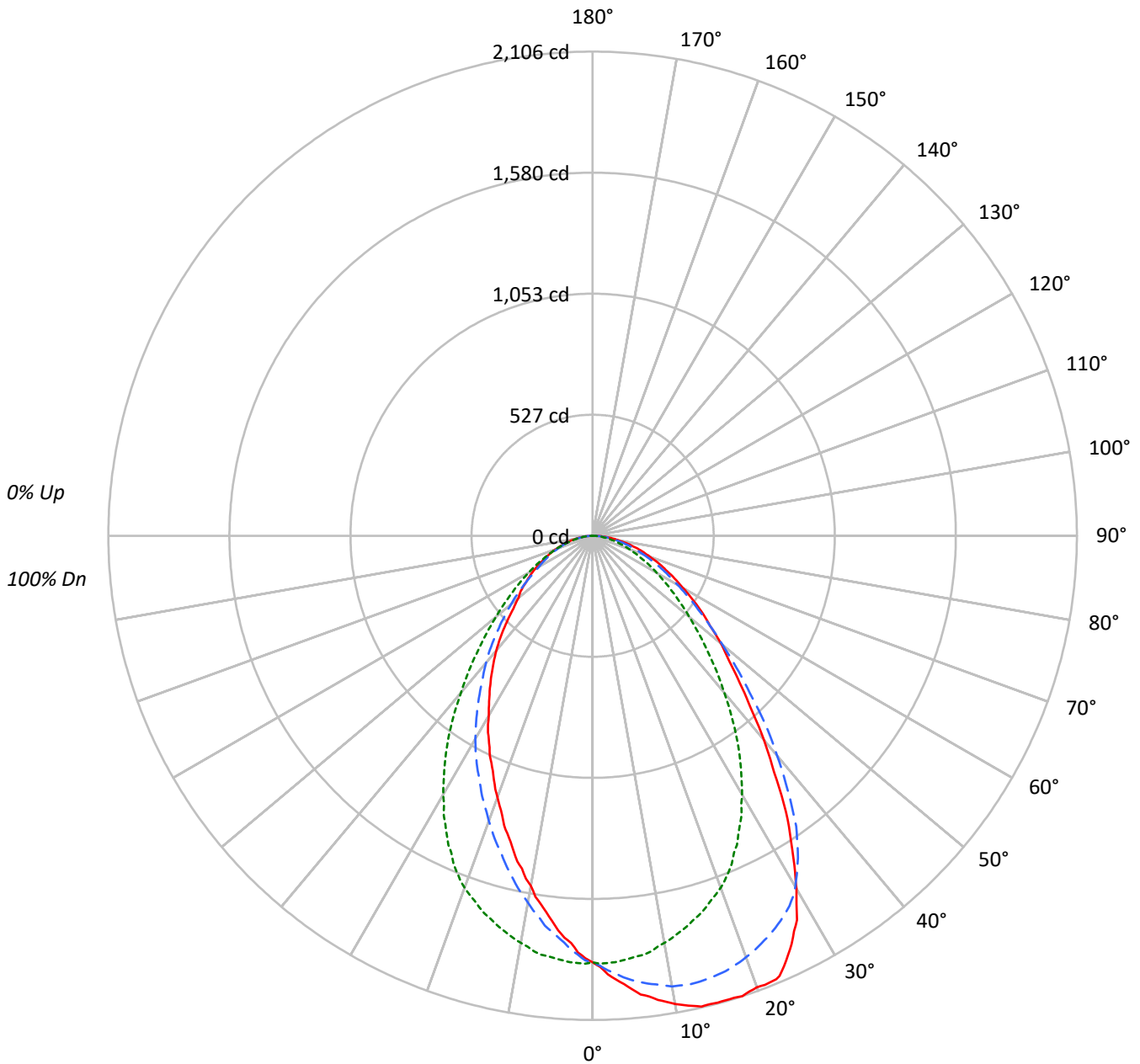
Test Method: LM-79-2019  
Report Number: P838716  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ655D010-HM64560927-61SQLWW  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3508.9 lumens  
Efficiency: N/A  
Efficacy: 65.0 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

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### 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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87					87			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75					75			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	69	63	85	75	68	62	73	66	62	71	65	61	68	64	60	58					58			
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	53	51					51			
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46					46			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42					42			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38					38			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34					34			
10	58	46	39	34	57	45	38	34	44	38	34	44	38	33	43	37	33	32					32			

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

	0°	45°	90°	135°	180°
0°	179762	179762	179762	179762	179762
5°	192624	188661	179486	170209	167505
10°	203449	195825	176869	159281	152050
15°	210805	199452	172754	147651	138284
20°	215464	201129	167948	136000	124732
25°	214913	201103	158636	124655	112972
30°	198242	197235	145342	114010	100900
35°	173397	182439	130160	101966	91394
40°	146481	157907	112551	91204	82403
45°	123850	132283	96354	80023	72132
50°	109884	110931	82635	69764	63480
55°	98315	94962	71477	60060	59722
60°	87769	82761	62349	51964	56207
65°	80596	73547	54189	48275	51461
70°	74267	65840	47840	45008	47840
75°	69919	58746	41659	40911	43868
80°	64268	52636	36597	37657	39889
85°	64024	47462	30900	30900	35346

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 45°  
 Luminance: 133372 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.0	5.0
10°-20°	487.8	13.9
20°-30°	695.8	19.8
30°-40°	717.1	20.4
40°-50°	577.3	16.5
50°-60°	408.2	11.6
60°-70°	264.5	7.5
70°-80°	142.1	4.1
80°-90°	41.0	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°	1358.7	38.7
0°-40°	2075.7	59.2
0°-60°	3061.2	87.2
0°-90°	3508.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3508.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1856	1856	1856	1856	1856	
5°	1981	1940	1846	1750	1722	192
15°	2102	1989	1722	1472	1379	594
25°	2011	1881	1484	1166	1057	915
35°	1466	1543	1101	862	773	910
45°	904	966	703	584	526	706
55°	582	562	423	356	354	521
65°	352	321	236	211	224	351
75°	187	157	111	109	117	198
85°	58	43	28	28	32	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	1855.6	1855.6	1855.6	1855.6	1855.6	1855.6	1855.6	1855.6	1855.6	1855.6	1855.6
1°	1875.5	1883.4	1877.4	1877.4	1871.5	1869.5	1873.5	1867.5	1865.5	1861.6	1853.6
2°	1909.2	1903.3	1901.3	1903.3	1891.4	1891.4	1885.4	1873.5	1867.5	1859.6	1837.7
3°	1933.1	1929.1	1925.1	1923.1	1911.2	1901.3	1893.3	1879.4	1867.5	1857.6	1825.8
4°	1954.9	1954.9	1951.0	1943.0	1931.1	1919.2	1903.3	1887.4	1869.5	1851.6	1809.9
5°	1980.8	1982.7	1964.9	1962.9	1949.0	1931.1	1913.2	1891.4	1869.5	1845.7	1800.0
6°	2006.6	1996.7	1992.7	1978.8	1958.9	1943.0	1921.2	1897.3	1867.5	1839.7	1778.1
7°	2018.5	2016.5	2006.6	1992.7	1974.8	1949.0	1927.1	1895.3	1863.5	1835.7	1762.2
8°	2038.4	2038.4	2026.5	2008.6	1982.7	1958.9	1931.1	1893.3	1861.6	1825.8	1740.4
9°	2052.3	2052.3	2036.4	2020.5	1996.7	1964.9	1933.1	1891.4	1851.6	1809.9	1720.5
10°	2068.2	2064.2	2052.3	2028.4	2008.6	1972.8	1933.1	1889.4	1845.7	1798.0	1700.6
11°	2080.1	2074.1	2060.2	2042.3	2010.6	1974.8	1933.1	1889.4	1837.7	1786.1	1680.8
12°	2090.0	2086.1	2068.2	2046.3	2014.5	1978.8	1931.1	1881.4	1823.8	1770.2	1654.9
13°	2101.9	2090.0	2072.1	2052.3	2016.5	1974.8	1923.1	1869.5	1813.9	1756.3	1633.1
14°	2100.0	2098.0	2082.1	2054.3	2014.5	1970.8	1921.2	1857.6	1800.0	1740.4	1607.3
15°	2101.9	2100.0	2082.1	2056.3	2012.5	1964.9	1915.2	1849.6	1786.1	1722.5	1581.4
16°	2101.9	2101.9	2078.1	2052.3	2010.6	1958.9	1903.3	1841.7	1772.2	1708.6	1559.6
17°	2101.9	2101.9	2082.1	2046.3	2004.6	1954.9	1891.4	1825.8	1756.3	1688.7	1527.8
18°	2105.9	2100.0	2074.1	2044.3	1996.7	1945.0	1883.4	1813.9	1742.4	1666.9	1505.9
19°	2096.0	2092.0	2070.2	2032.4	1990.7	1933.1	1871.5	1800.0	1728.4	1649.0	1480.1
20°	2090.0	2096.0	2066.2	2026.5	1978.8	1923.1	1859.6	1786.1	1708.6	1629.1	1454.3
21°	2092.0	2090.0	2058.2	2016.5	1970.8	1909.2	1845.7	1770.2	1686.7	1605.3	1430.4
22.5°	2088.0	2082.1	2048.3	2002.6	1947.0	1891.4	1821.8	1744.3	1654.9	1563.5	1384.7
23°	2080.1	2074.1	2048.3	1998.6	1939.0	1883.4	1809.9	1728.4	1643.0	1549.6	1372.8
24°	2048.3	2046.3	2034.4	1984.7	1929.1	1867.5	1796.0	1702.6	1607.3	1509.9	1343.0
25°	2010.6	2014.5	2008.6	1976.8	1913.2	1849.6	1774.1	1670.8	1573.5	1484.1	1307.3
26°	1974.8	1974.8	1970.8	1958.9	1897.3	1829.8	1742.4	1633.1	1539.7	1446.3	1269.5
27°	1929.1	1937.1	1929.1	1923.1	1881.4	1807.9	1708.6	1607.3	1502.0	1410.6	1237.7
28°	1893.3	1893.3	1889.4	1879.4	1865.5	1782.1	1672.8	1569.5	1466.2	1378.8	1202.0
29°	1829.8	1841.7	1843.7	1845.7	1843.7	1748.3	1639.0	1527.8	1428.5	1333.1	1168.2
30°	1772.2	1784.1	1792.0	1805.9	1807.9	1718.5	1599.3	1494.0	1392.7	1299.3	1138.4
32.5°	1615.2	1637.1	1658.9	1682.8	1694.7	1629.1	1502.0	1386.7	1283.4	1200.0	1047.0
35°	1466.2	1472.2	1496.0	1551.6	1563.5	1521.8	1386.7	1277.5	1180.1	1100.6	961.6
37.5°	1297.3	1309.2	1343.0	1406.6	1410.6	1376.8	1283.4	1156.3	1064.9	995.3	874.2
40°	1158.3	1164.2	1188.1	1241.7	1259.6	1237.7	1156.3	1041.0	957.6	890.0	790.7
42.5°	1019.2	1027.1	1056.9	1098.7	1124.5	1098.7	1027.1	927.8	846.3	796.7	711.2
45°	904.0	913.9	941.7	965.5	973.5	957.6	894.0	812.6	755.0	703.3	637.7
47.5°	804.6	814.6	834.4	844.4	854.3	838.4	788.7	721.2	663.6	621.8	562.2
50°	729.1	727.1	741.0	745.0	745.0	727.1	685.4	629.8	582.1	548.3	498.7
52.5°	643.7	647.7	657.6	653.6	651.6	635.7	600.0	552.3	512.6	482.8	437.1
55°	582.1	576.1	582.1	578.1	570.2	554.3	522.5	482.8	449.0	423.2	381.4
57.5°	514.6	514.6	516.5	508.6	498.7	480.8	453.0	421.2	391.4	369.5	335.8
60°	453.0	456.9	455.0	447.0	437.1	417.2	395.4	363.6	337.7	321.8	290.1



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	307.9	307.9	302.0	296.0	282.1	264.2	248.3	228.5	214.6	200.7	180.8
70°	262.2	266.2	258.3	248.3	238.4	226.5	208.6	192.7	178.8	168.9	153.0
72.5°	226.5	224.5	218.5	208.6	200.7	186.8	170.9	158.9	147.0	139.1	127.1
75°	186.8	186.8	180.8	172.8	162.9	151.0	139.1	129.1	119.2	111.3	105.3
77.5°	149.0	151.0	145.0	139.1	131.1	119.2	109.3	101.3	93.4	87.4	83.4
80°	115.2	117.2	111.3	107.3	97.3	91.4	83.4	75.5	69.5	65.6	63.6
82.5°	87.4	85.4	81.5	79.5	71.5	65.6	57.6	53.6	49.7	45.7	45.7
85°	57.6	55.6	53.6	51.7	45.7	39.7	37.7	33.8	29.8	27.8	27.8
87.5°	29.8	29.8	27.8	25.8	23.8	19.9	17.9	13.9	11.9	11.9	11.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	1855.6	1855.6	1855.6
1°	1847.6	1839.7	1837.7
2°	1823.8	1811.9	1813.9
3°	1802.0	1788.0	1774.1
4°	1774.1	1752.3	1752.3
5°	1750.3	1728.4	1722.5
6°	1728.4	1692.7	1684.7
7°	1708.6	1664.9	1651.0
8°	1674.8	1631.1	1617.2
9°	1651.0	1603.3	1589.4
10°	1619.2	1571.5	1545.7
11°	1593.3	1539.7	1519.8
12°	1565.5	1500.0	1480.1
13°	1533.7	1466.2	1454.3
14°	1503.9	1438.4	1416.5
15°	1472.2	1404.6	1378.8
16°	1438.4	1370.8	1347.0
17°	1410.6	1335.1	1317.2
18°	1382.8	1303.3	1275.5
19°	1349.0	1273.5	1241.7
20°	1319.2	1235.7	1209.9
21°	1287.4	1207.9	1180.1
22.5°	1243.7	1154.3	1128.5
23°	1229.8	1138.4	1110.6
24°	1198.0	1106.6	1082.8
25°	1166.2	1082.8	1056.9
26°	1138.4	1047.0	1023.2
27°	1110.6	1019.2	993.4
28°	1080.8	989.4	969.5
29°	1051.0	957.6	937.7
30°	1019.2	935.7	902.0
32.5°	939.7	864.2	836.4
35°	862.2	796.7	772.8
37.5°	786.7	733.1	711.2
40°	721.2	673.5	651.6
42.5°	653.6	609.9	588.1
45°	584.1	548.3	526.5
47.5°	520.5	490.7	466.9
50°	462.9	433.1	421.2
52.5°	407.3	387.4	393.4
55°	355.6	355.6	353.6
57.5°	306.0	319.9	321.8
60°	268.2	286.1	290.1





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	184.8	194.7	198.7
70°	158.9	166.9	168.9
72.5°	135.1	141.1	145.0
75°	109.3	117.2	117.2
77.5°	89.4	93.4	95.4
80°	67.5	69.5	71.5
82.5°	47.7	49.7	51.7
85°	27.8	29.8	31.8
87.5°	11.9	11.9	11.9
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

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Scaled Data Report





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

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Scaled Data Report





62.5°	401.3	405.3	399.3	389.4	379.5	361.6	341.7	313.9	294.0	278.1	250.3
65°	351.6	353.6	349.7	339.7	329.8	311.9	292.0	268.2	252.3	236.4	212.6

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Scaled Data Report



62.5°	240.4	254.3	256.3
65°	210.6	222.5	224.5

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Scaled Data Report



(END OF REPORT)