

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: P838701

Luminaire Tested: HCSQ655D010-HM64560830-61SQLWW

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838701  
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-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**

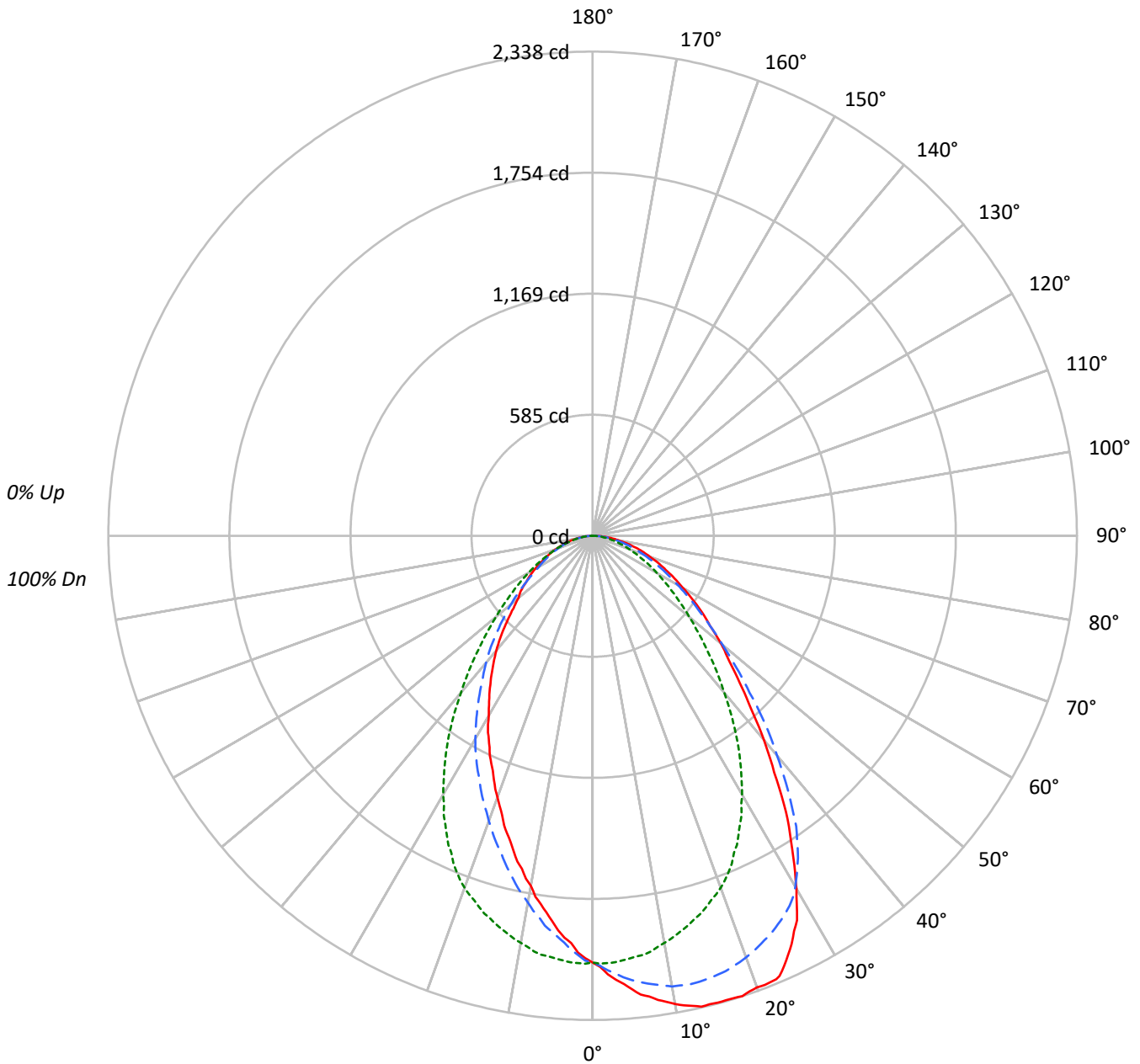
Lumens per Lamp: N/A  
Luminaire Lumens: 3895.9 lumens  
Efficiency: N/A  
Efficacy: 72.1 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.17  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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

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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	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°	199592	199592	199592	199592	199592
5°	213862	209467	199275	188977	185982
10°	225887	217422	196376	176849	168813
15°	234063	221452	191810	163929	153538
20°	239227	223314	186474	151000	138495
25°	238611	223283	176134	138401	125436
30°	220100	218992	161372	126583	112030
35°	192520	202567	144517	113213	101482
40°	162630	175320	124970	101258	91495
45°	137509	146874	106985	88846	80078
50°	122001	123169	91753	77466	70473
55°	109158	105434	79348	66681	66309
60°	97437	91886	69227	57699	62407
65°	89490	81662	60172	53593	57146
70°	82481	73105	53108	49993	53108
75°	77592	65221	46226	45402	48696
80°	71353	58466	40614	41841	44296
85°	71137	52686	34346	34346	39237

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 45°  
 Luminance: 148086 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	194.3	5.0
10°-20°	541.6	13.9
20°-30°	772.6	19.8
30°-40°	796.2	20.4
40°-50°	640.9	16.5
50°-60°	453.2	11.6
60°-70°	293.7	7.5
70°-80°	157.8	4.1
80°-90°	45.6	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°	1508.5	38.7
0°-40°	2304.7	59.2
0°-60°	3398.8	87.2
0°-90°	3895.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3895.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2060	2060	2060	2060	2060	
5°	2199	2154	2049	1943	1912	213
15°	2334	2208	1912	1634	1531	660
25°	2232	2089	1648	1295	1174	1016
35°	1628	1713	1222	957	858	1011
45°	1004	1072	781	648	584	784
55°	646	624	470	395	393	578
65°	390	356	262	234	249	390
75°	207	174	124	121	130	220
85°	64	47	31	31	35	70
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°	2060.3	2060.3	2060.3	2060.3	2060.3	2060.3	2060.3	2060.3	2060.3	2060.3	2060.3
1°	2082.3	2091.1	2084.5	2084.5	2077.9	2075.7	2080.1	2073.5	2071.3	2066.9	2058.1
2°	2119.8	2113.2	2111.0	2113.2	2100.0	2100.0	2093.3	2080.1	2073.5	2064.7	2040.4
3°	2146.3	2141.9	2137.5	2135.3	2122.0	2111.0	2102.2	2086.7	2073.5	2062.5	2027.2
4°	2170.5	2170.5	2166.1	2157.3	2144.1	2130.8	2113.2	2095.6	2075.7	2055.8	2009.5
5°	2199.2	2201.4	2181.6	2179.4	2163.9	2144.1	2124.2	2100.0	2075.7	2049.2	1998.5
6°	2227.9	2216.9	2212.5	2197.0	2175.0	2157.3	2133.0	2106.6	2073.5	2042.6	1974.2
7°	2241.1	2238.9	2227.9	2212.5	2192.6	2163.9	2139.7	2104.4	2069.1	2038.2	1956.6
8°	2263.2	2263.2	2250.0	2230.1	2201.4	2175.0	2144.1	2102.2	2066.9	2027.2	1932.3
9°	2278.6	2278.6	2261.0	2243.3	2216.9	2181.6	2146.3	2100.0	2055.8	2009.5	1910.3
10°	2296.3	2291.9	2278.6	2252.2	2230.1	2190.4	2146.3	2097.8	2049.2	1996.3	1888.2
11°	2309.5	2302.9	2287.5	2267.6	2232.3	2192.6	2146.3	2097.8	2040.4	1983.1	1866.1
12°	2320.5	2316.1	2296.3	2272.0	2236.7	2197.0	2144.1	2088.9	2025.0	1965.4	1837.5
13°	2333.8	2320.5	2300.7	2278.6	2238.9	2192.6	2135.3	2075.7	2013.9	1950.0	1813.2
14°	2331.6	2329.4	2311.7	2280.8	2236.7	2188.2	2133.0	2062.5	1998.5	1932.3	1784.5
15°	2333.8	2331.6	2311.7	2283.0	2234.5	2181.6	2126.4	2053.6	1983.1	1912.5	1755.9
16°	2333.8	2333.8	2307.3	2278.6	2232.3	2175.0	2113.2	2044.8	1967.6	1897.0	1731.6
17°	2333.8	2333.8	2311.7	2272.0	2225.7	2170.5	2100.0	2027.2	1950.0	1875.0	1696.3
18°	2338.2	2331.6	2302.9	2269.8	2216.9	2159.5	2091.1	2013.9	1934.5	1850.7	1672.0
19°	2327.2	2322.8	2298.5	2256.6	2210.3	2146.3	2077.9	1998.5	1919.1	1830.8	1643.4
20°	2320.5	2327.2	2294.1	2250.0	2197.0	2135.3	2064.7	1983.1	1897.0	1808.8	1614.7
21°	2322.8	2320.5	2285.3	2238.9	2188.2	2119.8	2049.2	1965.4	1872.8	1782.3	1588.2
22.5°	2318.3	2311.7	2274.2	2223.5	2161.7	2100.0	2022.8	1936.7	1837.5	1736.0	1537.5
23°	2309.5	2302.9	2274.2	2219.1	2152.9	2091.1	2009.5	1919.1	1824.2	1720.6	1524.2
24°	2274.2	2272.0	2258.8	2203.6	2141.9	2073.5	1994.1	1890.4	1784.5	1676.4	1491.1
25°	2232.3	2236.7	2230.1	2194.8	2124.2	2053.6	1969.8	1855.1	1747.0	1647.8	1451.4
26°	2192.6	2192.6	2188.2	2175.0	2106.6	2031.6	1934.5	1813.2	1709.5	1605.9	1409.5
27°	2141.9	2150.7	2141.9	2135.3	2088.9	2007.3	1897.0	1784.5	1667.6	1566.1	1374.2
28°	2102.2	2102.2	2097.8	2086.7	2071.3	1978.6	1857.3	1742.6	1627.9	1530.9	1334.5
29°	2031.6	2044.8	2047.0	2049.2	2047.0	1941.1	1819.8	1696.3	1586.0	1480.1	1297.0
30°	1967.6	1980.8	1989.7	2005.1	2007.3	1908.1	1775.7	1658.8	1546.3	1442.6	1263.9
32.5°	1793.3	1817.6	1841.9	1868.3	1881.6	1808.8	1667.6	1539.7	1425.0	1332.3	1162.5
35°	1627.9	1634.5	1661.0	1722.8	1736.0	1689.7	1539.7	1418.4	1310.3	1222.0	1067.6
37.5°	1440.4	1453.6	1491.1	1561.7	1566.1	1528.6	1425.0	1283.8	1182.3	1105.1	970.6
40°	1286.0	1292.6	1319.1	1378.7	1398.5	1374.2	1283.8	1155.9	1063.2	988.2	877.9
42.5°	1131.6	1140.4	1173.5	1219.8	1248.5	1219.8	1140.4	1030.1	939.7	884.5	789.7
45°	1003.7	1014.7	1045.6	1072.0	1080.9	1063.2	992.6	902.2	838.2	780.9	708.1
47.5°	893.4	904.4	926.5	937.5	948.5	930.9	875.7	800.7	736.8	690.4	624.3
50°	809.5	807.3	822.8	827.2	827.2	807.3	761.0	699.3	646.3	608.8	553.7
52.5°	714.7	719.1	730.1	725.7	723.5	705.9	666.2	613.2	569.1	536.0	485.3
55°	646.3	639.7	646.3	641.9	633.1	615.4	580.1	536.0	498.5	469.8	423.5
57.5°	571.3	571.3	573.5	564.7	553.7	533.8	502.9	467.6	434.6	410.3	372.8
60°	502.9	507.3	505.1	496.3	485.3	463.2	439.0	403.7	375.0	357.3	322.1



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	341.9	341.9	335.3	328.7	313.2	293.4	275.7	253.7	238.2	222.8	200.7
70°	291.2	295.6	286.8	275.7	264.7	251.5	231.6	214.0	198.5	187.5	169.8
72.5°	251.5	249.3	242.6	231.6	222.8	207.3	189.7	176.5	163.2	154.4	141.2
75°	207.3	207.3	200.7	191.9	180.9	167.6	154.4	143.4	132.4	123.5	116.9
77.5°	165.4	167.6	161.0	154.4	145.6	132.4	121.3	112.5	103.7	97.1	92.6
80°	127.9	130.1	123.5	119.1	108.1	101.5	92.6	83.8	77.2	72.8	70.6
82.5°	97.1	94.9	90.4	88.2	79.4	72.8	64.0	59.6	55.1	50.7	50.7
85°	64.0	61.8	59.6	57.4	50.7	44.1	41.9	37.5	33.1	30.9	30.9
87.5°	33.1	33.1	30.9	28.7	26.5	22.1	19.9	15.4	13.2	13.2	13.2
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°	2060.3	2060.3	2060.3
1°	2051.4	2042.6	2040.4
2°	2025.0	2011.7	2013.9
3°	2000.7	1985.3	1969.8
4°	1969.8	1945.6	1945.6
5°	1943.3	1919.1	1912.5
6°	1919.1	1879.4	1870.6
7°	1897.0	1848.5	1833.1
8°	1859.5	1811.0	1795.6
9°	1833.1	1780.1	1764.7
10°	1797.8	1744.8	1716.1
11°	1769.1	1709.5	1687.5
12°	1738.2	1665.4	1643.4
13°	1702.9	1627.9	1614.7
14°	1669.8	1597.0	1572.8
15°	1634.5	1559.5	1530.9
16°	1597.0	1522.0	1495.6
17°	1566.1	1482.3	1462.5
18°	1535.3	1447.0	1416.2
19°	1497.8	1413.9	1378.7
20°	1464.7	1372.0	1343.4
21°	1429.4	1341.2	1310.3
22.5°	1380.9	1281.6	1252.9
23°	1365.4	1263.9	1233.1
24°	1330.1	1228.7	1202.2
25°	1294.8	1202.2	1173.5
26°	1263.9	1162.5	1136.0
27°	1233.1	1131.6	1102.9
28°	1200.0	1098.5	1076.5
29°	1166.9	1063.2	1041.2
30°	1131.6	1039.0	1001.5
32.5°	1043.4	959.5	928.7
35°	957.3	884.5	858.1
37.5°	873.5	814.0	789.7
40°	800.7	747.8	723.5
42.5°	725.7	677.2	652.9
45°	648.5	608.8	584.5
47.5°	577.9	544.8	518.4
50°	514.0	480.9	467.6
52.5°	452.2	430.1	436.8
55°	394.8	394.8	392.6
57.5°	339.7	355.1	357.3
60°	297.8	317.6	322.1





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	205.1	216.2	220.6
70°	176.5	185.3	187.5
72.5°	150.0	156.6	161.0
75°	121.3	130.1	130.1
77.5°	99.3	103.7	105.9
80°	75.0	77.2	79.4
82.5°	52.9	55.1	57.4
85°	30.9	33.1	35.3
87.5°	13.2	13.2	13.2
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°	445.6	450.0	443.4	432.3	421.3	401.5	379.4	348.5	326.5	308.8	277.9
65°	390.4	392.6	388.2	377.2	366.2	346.3	324.3	297.8	280.1	262.5	236.0

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Scaled Data Report



62.5°	266.9	282.3	284.6
65°	233.8	247.1	249.3

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Scaled Data Report



(END OF REPORT)