

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: P838746

Luminaire Tested: HCSQ660D010-HM64560835-61SQLWW

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-2019
Report Number: P838746
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-HM64560835-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

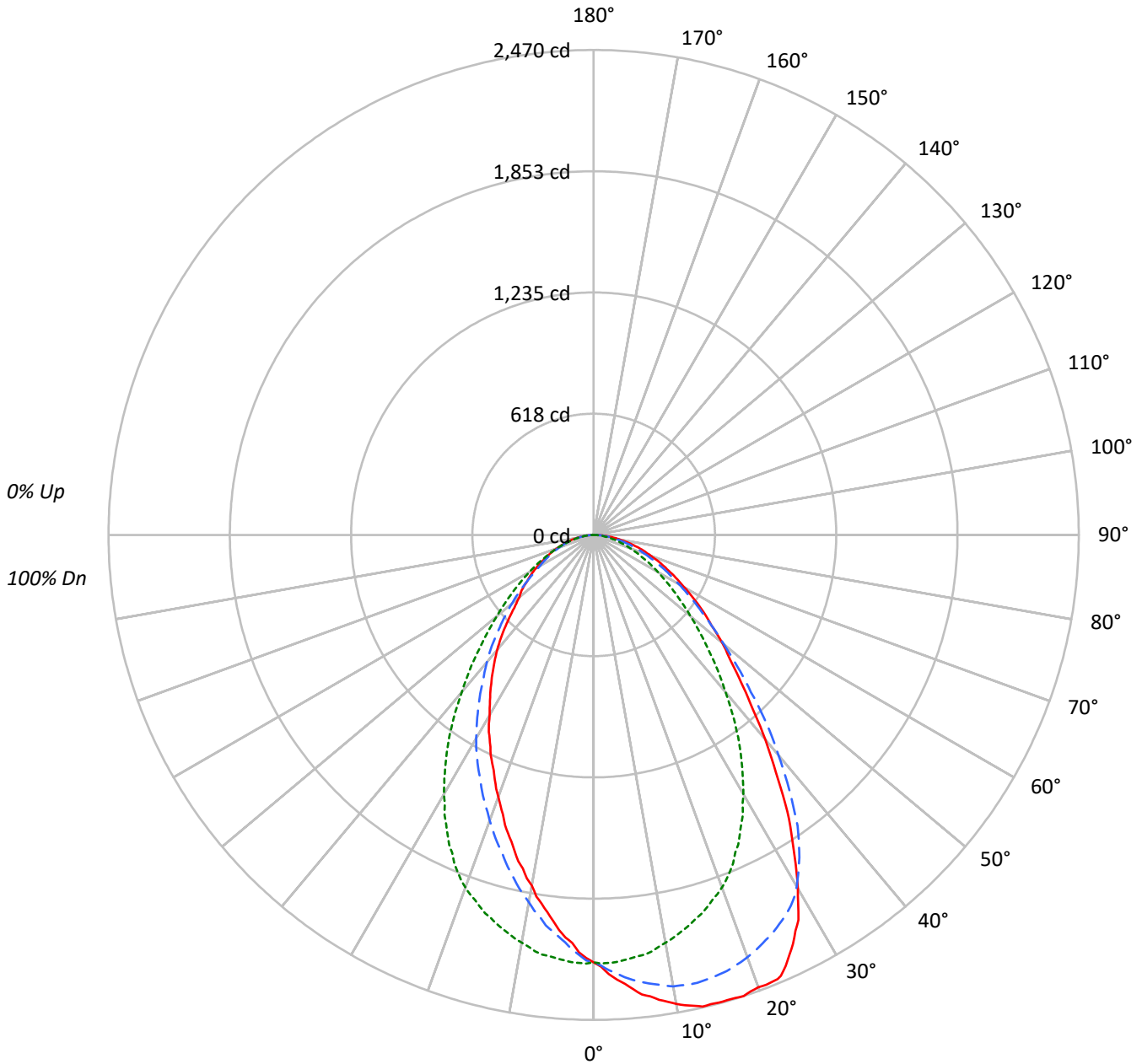
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4116.1 lumens
Efficiency: N/A
Efficacy: 73.5 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: P838746
CATALOG NUMBER: HCSQ660D010-HM64560835-61SQLWW

Luminous Intensity Polar Plot





TEST NUMBER: P838746

CATALOG NUMBER: HCSQ660D010-HM64560835-61SQLWW

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	210869	210869	210869	210869	210869
5°	225950	221302	210536	199664	196484
10°	238645	229708	207472	186834	178354
15°	247282	233963	202642	173196	162214
20°	252752	235933	197010	159526	146319
25°	252090	235907	186085	146226	132522
30°	232539	231364	170489	133731	118350
35°	203401	214009	152689	119611	107217
40°	171824	185229	132039	106987	96667
45°	145277	155169	113027	93874	84613
50°	128903	130132	96938	81836	74467
55°	115323	111388	83841	70464	70059
60°	102940	97079	73141	60954	65933
65°	94556	86281	63565	56619	60355
70°	87126	77241	56111	52797	56111
75°	82009	68908	48846	47985	51466
80°	75426	61758	42901	44184	46806
85°	75139	55687	36236	36236	41460

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 156443 cd/sqm



TEST NUMBER: P838746

CATALOG NUMBER: HCSQ660D010-HM64560835-61SQLWW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.3	5.0
10°-20°	572.2	13.9
20°-30°	816.2	19.8
30°-40°	841.2	20.4
40°-50°	677.2	16.5
50°-60°	478.8	11.6
60°-70°	310.3	7.5
70°-80°	166.7	4.1
80°-90°	48.1	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°	1593.7	38.7
0°-40°	2434.9	59.2
0°-60°	3590.9	87.2
0°-90°	4116.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4116.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2177	2177	2177	2177	2177	
5°	2324	2276	2165	2053	2020	225
15°	2466	2333	2020	1727	1617	697
25°	2358	2207	1741	1368	1240	1074
35°	1720	1810	1291	1011	907	1068
45°	1060	1133	825	685	618	828
55°	683	660	496	417	415	611
65°	412	376	277	247	263	412
75°	219	184	130	128	138	232
85°	68	50	33	33	37	74
90°	0	0	0	0	0	



TEST NUMBER: P838746

CATALOG NUMBER: HCSQ660D010-HM64560835-61SQLWW

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	2176.7	2176.7	2176.7	2176.7	2176.7	2176.7	2176.7	2176.7	2176.7	2176.7	2176.7
1°	2200.0	2209.3	2202.3	2202.3	2195.3	2193.0	2197.6	2190.7	2188.3	2183.7	2174.3
2°	2239.6	2232.6	2230.3	2232.6	2218.6	2218.6	2211.6	2197.6	2190.7	2181.3	2155.7
3°	2267.6	2262.9	2258.2	2255.9	2241.9	2230.3	2220.9	2204.6	2190.7	2179.0	2141.7
4°	2293.2	2293.2	2288.5	2279.2	2265.2	2251.2	2232.6	2214.0	2193.0	2172.0	2123.1
5°	2323.5	2325.8	2304.8	2302.5	2286.2	2265.2	2244.3	2218.6	2193.0	2165.0	2111.4
6°	2353.8	2342.1	2337.5	2321.2	2297.9	2279.2	2253.6	2225.6	2190.7	2158.0	2085.8
7°	2367.8	2365.4	2353.8	2337.5	2316.5	2286.2	2260.6	2223.3	2186.0	2153.4	2067.1
8°	2391.1	2391.1	2377.1	2356.1	2325.8	2297.9	2265.2	2220.9	2183.7	2141.7	2041.5
9°	2407.4	2407.4	2388.7	2370.1	2342.1	2304.8	2267.6	2218.6	2172.0	2123.1	2018.2
10°	2426.0	2421.4	2407.4	2379.4	2356.1	2314.2	2267.6	2216.3	2165.0	2109.1	1994.9
11°	2440.0	2433.0	2416.7	2395.7	2358.4	2316.5	2267.6	2216.3	2155.7	2095.1	1971.6
12°	2451.7	2447.0	2426.0	2400.4	2363.1	2321.2	2265.2	2207.0	2139.4	2076.5	1941.3
13°	2465.6	2451.7	2430.7	2407.4	2365.4	2316.5	2255.9	2193.0	2127.7	2060.1	1915.7
14°	2463.3	2461.0	2442.3	2409.7	2363.1	2311.8	2253.6	2179.0	2111.4	2041.5	1885.4
15°	2465.6	2463.3	2442.3	2412.0	2360.8	2304.8	2246.6	2169.7	2095.1	2020.5	1855.1
16°	2465.6	2465.6	2437.7	2407.4	2358.4	2297.9	2232.6	2160.4	2078.8	2004.2	1829.4
17°	2465.6	2465.6	2442.3	2400.4	2351.5	2293.2	2218.6	2141.7	2060.1	1980.9	1792.1
18°	2470.3	2463.3	2433.0	2398.1	2342.1	2281.5	2209.3	2127.7	2043.8	1955.3	1766.5
19°	2458.7	2454.0	2428.4	2384.1	2335.1	2267.6	2195.3	2111.4	2027.5	1934.3	1736.2
20°	2451.7	2458.7	2423.7	2377.1	2321.2	2255.9	2181.3	2095.1	2004.2	1911.0	1705.9
21°	2454.0	2451.7	2414.4	2365.4	2311.8	2239.6	2165.0	2076.5	1978.6	1883.0	1677.9
22.5°	2449.3	2442.3	2402.7	2349.1	2283.9	2218.6	2137.1	2046.2	1941.3	1834.1	1624.3
23°	2440.0	2433.0	2402.7	2344.5	2274.6	2209.3	2123.1	2027.5	1927.3	1817.8	1610.4
24°	2402.7	2400.4	2386.4	2328.2	2262.9	2190.7	2106.8	1997.2	1885.4	1771.2	1575.4
25°	2358.4	2363.1	2356.1	2318.8	2244.3	2169.7	2081.1	1959.9	1845.7	1740.9	1533.5
26°	2316.5	2316.5	2311.8	2297.9	2225.6	2146.4	2043.8	1915.7	1806.1	1696.6	1489.2
27°	2262.9	2272.2	2262.9	2255.9	2207.0	2120.7	2004.2	1885.4	1761.8	1654.6	1451.9
28°	2220.9	2220.9	2216.3	2204.6	2188.3	2090.4	1962.3	1841.1	1719.9	1617.4	1409.9
29°	2146.4	2160.4	2162.7	2165.0	2162.7	2050.8	1922.6	1792.1	1675.6	1563.8	1370.3
30°	2078.8	2092.8	2102.1	2118.4	2120.7	2015.9	1876.0	1752.5	1633.7	1524.1	1335.4
32.5°	1894.7	1920.3	1946.0	1973.9	1987.9	1911.0	1761.8	1626.7	1505.5	1407.6	1228.2
35°	1719.9	1726.9	1754.9	1820.1	1834.1	1785.1	1626.7	1498.5	1384.3	1291.1	1128.0
37.5°	1521.8	1535.8	1575.4	1650.0	1654.6	1615.0	1505.5	1356.3	1249.1	1167.6	1025.4
40°	1358.7	1365.7	1393.6	1456.6	1477.5	1451.9	1356.3	1221.2	1123.3	1044.1	927.5
42.5°	1195.5	1204.9	1239.8	1288.8	1319.1	1288.8	1204.9	1088.3	992.8	934.5	834.3
45°	1060.4	1072.0	1104.6	1132.6	1141.9	1123.3	1048.7	953.2	885.6	825.0	748.1
47.5°	943.8	955.5	978.8	990.5	1002.1	983.5	925.2	846.0	778.4	729.4	659.5
50°	855.3	853.0	869.3	873.9	873.9	853.0	804.0	738.8	682.8	643.2	585.0
52.5°	755.1	759.7	771.4	766.7	764.4	745.8	703.8	647.9	601.3	566.3	512.7
55°	682.8	675.8	682.8	678.2	668.8	650.2	612.9	566.3	526.7	496.4	447.5
57.5°	603.6	603.6	605.9	596.6	585.0	564.0	531.3	494.1	459.1	433.5	393.9
60°	531.3	536.0	533.7	524.4	512.7	489.4	463.8	426.5	396.2	377.5	340.3



TEST NUMBER: P838746

CATALOG NUMBER: HCSQ660D010-HM64560835-61SQLWW

CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	361.2	361.2	354.2	347.2	330.9	310.0	291.3	268.0	251.7	235.4	212.1
70°	307.6	312.3	303.0	291.3	279.7	265.7	244.7	226.1	209.7	198.1	179.4
72.5°	265.7	263.3	256.4	244.7	235.4	219.1	200.4	186.4	172.5	163.1	149.2
75°	219.1	219.1	212.1	202.8	191.1	177.1	163.1	151.5	139.8	130.5	123.5
77.5°	174.8	177.1	170.1	163.1	153.8	139.8	128.2	118.9	109.5	102.5	97.9
80°	135.2	137.5	130.5	125.8	114.2	107.2	97.9	88.6	81.6	76.9	74.6
82.5°	102.5	100.2	95.5	93.2	83.9	76.9	67.6	62.9	58.3	53.6	53.6
85°	67.6	65.3	62.9	60.6	53.6	46.6	44.3	39.6	35.0	32.6	32.6
87.5°	35.0	35.0	32.6	30.3	28.0	23.3	21.0	16.3	14.0	14.0	14.0
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: P838746

CATALOG NUMBER: HCSQ660D010-HM64560835-61SQLWW

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	2176.7	2176.7	2176.7
1°	2167.3	2158.0	2155.7
2°	2139.4	2125.4	2127.7
3°	2113.7	2097.4	2081.1
4°	2081.1	2055.5	2055.5
5°	2053.2	2027.5	2020.5
6°	2027.5	1985.6	1976.2
7°	2004.2	1952.9	1936.6
8°	1964.6	1913.3	1897.0
9°	1936.6	1880.7	1864.4
10°	1899.3	1843.4	1813.1
11°	1869.0	1806.1	1782.8
12°	1836.4	1759.5	1736.2
13°	1799.1	1719.9	1705.9
14°	1764.2	1687.3	1661.6
15°	1726.9	1647.7	1617.4
16°	1687.3	1608.0	1580.1
17°	1654.6	1566.1	1545.1
18°	1622.0	1528.8	1496.2
19°	1582.4	1493.8	1456.6
20°	1547.4	1449.6	1419.3
21°	1510.2	1416.9	1384.3
22.5°	1458.9	1354.0	1323.7
23°	1442.6	1335.4	1302.7
24°	1405.3	1298.1	1270.1
25°	1368.0	1270.1	1239.8
26°	1335.4	1228.2	1200.2
27°	1302.7	1195.5	1165.2
28°	1267.8	1160.6	1137.3
29°	1232.8	1123.3	1100.0
30°	1195.5	1097.7	1058.0
32.5°	1102.3	1013.8	981.1
35°	1011.4	934.5	906.6
37.5°	922.9	859.9	834.3
40°	846.0	790.0	764.4
42.5°	766.7	715.5	689.8
45°	685.2	643.2	617.6
47.5°	610.6	575.6	547.7
50°	543.0	508.0	494.1
52.5°	477.7	454.4	461.4
55°	417.2	417.2	414.8
57.5°	358.9	375.2	377.5
60°	314.6	335.6	340.3



TEST NUMBER: P838746

CATALOG NUMBER: HCSQ660D010-HM64560835-61SQLWW

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	216.7	228.4	233.0
70°	186.4	195.8	198.1
72.5°	158.5	165.5	170.1
75°	128.2	137.5	137.5
77.5°	104.9	109.5	111.9
80°	79.2	81.6	83.9
82.5°	55.9	58.3	60.6
85°	32.6	35.0	37.3
87.5°	14.0	14.0	14.0
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°	470.8	475.4	468.4	456.8	445.1	424.1	400.8	368.2	344.9	326.3	293.6
65°	412.5	414.8	410.2	398.5	386.9	365.9	342.6	314.6	296.0	277.3	249.4

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°	282.0	298.3	300.6
65°	247.0	261.0	263.3

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

Scaled Data Report



(END OF REPORT)