

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: P838761

Luminaire Tested: HCSQ660D010-HM64560930-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838761
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-HM64560930-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

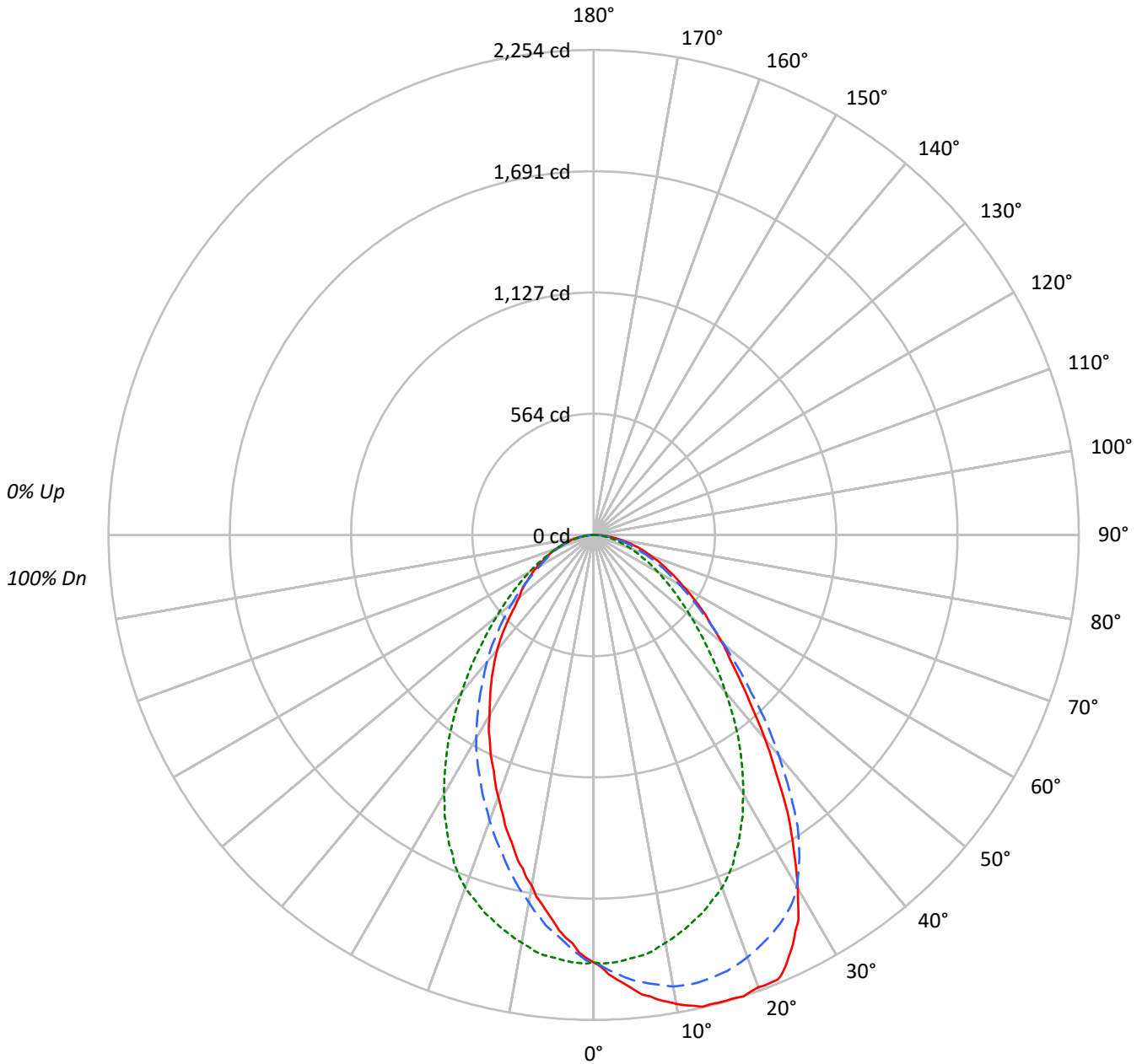
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3756.5 lumens
Efficiency: N/A
Efficacy: 67.1 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): 56
Input Voltage (V): NR
Input Current (A_{in}): 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	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°	192443	192443	192443	192443	192443
5°	206209	201969	192147	182219	179321
10°	217801	209641	189342	170514	162773
15°	225689	213523	184940	158061	148042
20°	230670	215319	179804	145598	133536
25°	230070	215293	169827	133452	120946
30°	212225	211157	155600	122053	108014
35°	185626	195317	139349	109169	97851
40°	156813	169054	120493	97641	88220
45°	132577	141620	103149	85668	77215
50°	117645	118761	88468	74693	67956
55°	105257	101659	76510	64299	63944
60°	93950	88593	66767	55626	60160
65°	86304	78739	58017	51691	55083
70°	79535	70485	51211	48208	51211
75°	74822	62882	44579	43793	46974
80°	68843	56346	39163	40335	42734
85°	68581	50797	33123	33123	37792

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 142784 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.4	5.0
10°-20°	522.2	13.9
20°-30°	744.9	19.8
30°-40°	767.7	20.4
40°-50°	618.0	16.5
50°-60°	437.0	11.6
60°-70°	283.2	7.5
70°-80°	152.1	4.1
80°-90°	43.9	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°	1454.5	38.7
0°-40°	2222.2	59.2
0°-60°	3277.2	87.2
0°-90°	3756.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3756.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1986	1986	1986	1986	1986	
5°	2120	2077	1976	1874	1844	205
15°	2250	2129	1844	1576	1476	636
25°	2152	2014	1589	1248	1132	980
35°	1570	1652	1178	923	827	974
45°	968	1034	753	625	564	756
55°	623	602	453	381	379	557
65°	376	344	253	226	240	376
75°	200	168	119	117	126	212
85°	62	46	30	30	34	68
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°	1986.5	1986.5	1986.5	1986.5	1986.5	1986.5	1986.5	1986.5	1986.5	1986.5	1986.5
1°	2007.8	2016.3	2009.9	2009.9	2003.5	2001.4	2005.7	1999.3	1997.2	1992.9	1984.4
2°	2043.9	2037.6	2035.4	2037.6	2024.8	2024.8	2018.4	2005.7	1999.3	1990.8	1967.4
3°	2069.5	2065.2	2061.0	2058.8	2046.1	2035.4	2026.9	2012.0	1999.3	1988.6	1954.6
4°	2092.9	2092.9	2088.6	2080.1	2067.3	2054.6	2037.6	2020.6	2001.4	1982.3	1937.6
5°	2120.5	2122.6	2103.5	2101.4	2086.5	2067.3	2048.2	2024.8	2001.4	1975.9	1927.0
6°	2148.2	2137.5	2133.3	2118.4	2097.1	2080.1	2056.7	2031.2	1999.3	1969.5	1903.6
7°	2160.9	2158.8	2148.2	2133.3	2114.1	2086.5	2063.1	2029.1	1995.0	1965.3	1886.6
8°	2182.2	2182.2	2169.4	2150.3	2122.6	2097.1	2067.3	2026.9	1992.9	1954.6	1863.2
9°	2197.1	2197.1	2180.1	2163.1	2137.5	2103.5	2069.5	2024.8	1982.3	1937.6	1841.9
10°	2214.1	2209.8	2197.1	2171.6	2150.3	2112.0	2069.5	2022.7	1975.9	1924.8	1820.6
11°	2226.9	2220.5	2205.6	2186.4	2152.4	2114.1	2069.5	2022.7	1967.4	1912.1	1799.4
12°	2237.5	2233.2	2214.1	2190.7	2156.7	2118.4	2067.3	2014.2	1952.5	1895.1	1771.7
13°	2250.3	2237.5	2218.4	2197.1	2158.8	2114.1	2058.8	2001.4	1941.9	1880.2	1748.3
14°	2248.1	2246.0	2229.0	2199.2	2156.7	2109.9	2056.7	1988.6	1927.0	1863.2	1720.7
15°	2250.3	2248.1	2229.0	2201.3	2154.5	2103.5	2050.3	1980.1	1912.1	1844.0	1693.0
16°	2250.3	2250.3	2224.7	2197.1	2152.4	2097.1	2037.6	1971.6	1897.2	1829.1	1669.6
17°	2250.3	2250.3	2229.0	2190.7	2146.0	2092.9	2024.8	1954.6	1880.2	1807.9	1635.6
18°	2254.5	2248.1	2220.5	2188.6	2137.5	2082.2	2016.3	1941.9	1865.3	1784.5	1612.2
19°	2243.9	2239.6	2216.2	2175.8	2131.1	2069.5	2003.5	1927.0	1850.4	1765.3	1584.5
20°	2237.5	2243.9	2212.0	2169.4	2118.4	2058.8	1990.8	1912.1	1829.1	1744.1	1556.9
21°	2239.6	2237.5	2203.5	2158.8	2109.9	2043.9	1975.9	1895.1	1805.7	1718.5	1531.4
22.5°	2235.4	2229.0	2192.8	2143.9	2084.4	2024.8	1950.4	1867.4	1771.7	1673.9	1482.4
23°	2226.9	2220.5	2192.8	2139.7	2075.9	2016.3	1937.6	1850.4	1758.9	1659.0	1469.7
24°	2192.8	2190.7	2177.9	2124.8	2065.2	1999.3	1922.7	1822.7	1720.7	1616.4	1437.8
25°	2152.4	2156.7	2150.3	2116.3	2048.2	1980.1	1899.3	1788.7	1684.5	1588.8	1399.5
26°	2114.1	2114.1	2109.9	2097.1	2031.2	1958.9	1865.3	1748.3	1648.3	1548.4	1359.1
27°	2065.2	2073.7	2065.2	2058.8	2014.2	1935.5	1829.1	1720.7	1607.9	1510.1	1325.1
28°	2026.9	2026.9	2022.7	2012.0	1997.2	1907.8	1790.8	1680.2	1569.6	1476.1	1286.8
29°	1958.9	1971.6	1973.8	1975.9	1973.8	1871.7	1754.7	1635.6	1529.2	1427.1	1250.6
30°	1897.2	1910.0	1918.5	1933.3	1935.5	1839.8	1712.2	1599.4	1491.0	1391.0	1218.7
32.5°	1729.2	1752.6	1776.0	1801.5	1814.2	1744.1	1607.9	1484.6	1374.0	1284.6	1120.9
35°	1569.6	1576.0	1601.6	1661.1	1673.9	1629.2	1484.6	1367.6	1263.4	1178.3	1029.4
37.5°	1388.9	1401.6	1437.8	1505.8	1510.1	1473.9	1374.0	1237.9	1140.0	1065.6	935.8
40°	1240.0	1246.4	1271.9	1329.3	1348.5	1325.1	1237.9	1114.5	1025.2	952.8	846.5
42.5°	1091.1	1099.6	1131.5	1176.2	1203.8	1176.2	1099.6	993.3	906.1	852.9	761.4
45°	967.7	978.4	1008.1	1033.7	1042.2	1025.2	957.1	869.9	808.2	752.9	682.7
47.5°	861.4	872.0	893.3	903.9	914.6	897.6	844.4	772.1	710.4	665.7	601.9
50°	780.6	778.4	793.3	797.6	797.6	778.4	733.8	674.2	623.2	587.0	533.9
52.5°	689.1	693.4	704.0	699.7	697.6	680.6	642.3	591.3	548.7	516.8	467.9
55°	623.2	616.8	623.2	618.9	610.4	593.4	559.4	516.8	480.7	453.0	408.4
57.5°	550.9	550.9	553.0	544.5	533.9	514.7	484.9	450.9	419.0	395.6	359.4
60°	484.9	489.2	487.1	478.6	467.9	446.6	423.3	389.2	361.6	344.6	310.5



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	329.7	329.7	323.3	316.9	302.0	282.9	265.9	244.6	229.7	214.8	193.5
70°	280.8	285.0	276.5	265.9	255.2	242.5	223.3	206.3	191.4	180.8	163.8
72.5°	242.5	240.3	234.0	223.3	214.8	199.9	182.9	170.2	157.4	148.9	136.1
75°	199.9	199.9	193.5	185.0	174.4	161.6	148.9	138.2	127.6	119.1	112.7
77.5°	159.5	161.6	155.3	148.9	140.4	127.6	117.0	108.5	100.0	93.6	89.3
80°	123.4	125.5	119.1	114.9	104.2	97.8	89.3	80.8	74.4	70.2	68.1
82.5°	93.6	91.5	87.2	85.1	76.6	70.2	61.7	57.4	53.2	48.9	48.9
85°	61.7	59.6	57.4	55.3	48.9	42.5	40.4	36.2	31.9	29.8	29.8
87.5°	31.9	31.9	29.8	27.6	25.5	21.3	19.1	14.9	12.8	12.8	12.8
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°	1986.5	1986.5	1986.5
1°	1978.0	1969.5	1967.4
2°	1952.5	1939.7	1941.9
3°	1929.1	1914.2	1899.3
4°	1899.3	1875.9	1875.9
5°	1873.8	1850.4	1844.0
6°	1850.4	1812.1	1803.6
7°	1829.1	1782.3	1767.5
8°	1793.0	1746.2	1731.3
9°	1767.5	1716.4	1701.5
10°	1733.4	1682.4	1654.7
11°	1705.8	1648.3	1627.1
12°	1676.0	1605.8	1584.5
13°	1642.0	1569.6	1556.9
14°	1610.1	1539.9	1516.5
15°	1576.0	1503.7	1476.1
16°	1539.9	1467.6	1442.0
17°	1510.1	1429.3	1410.1
18°	1480.3	1395.2	1365.5
19°	1444.2	1363.3	1329.3
20°	1412.3	1322.9	1295.3
21°	1378.2	1293.2	1263.4
22.5°	1331.4	1235.7	1208.1
23°	1316.5	1218.7	1188.9
24°	1282.5	1184.7	1159.2
25°	1248.5	1159.2	1131.5
26°	1218.7	1120.9	1095.4
27°	1188.9	1091.1	1063.4
28°	1157.0	1059.2	1037.9
29°	1125.1	1025.2	1003.9
30°	1091.1	1001.8	965.6
32.5°	1006.0	925.2	895.4
35°	923.1	852.9	827.4
37.5°	842.3	784.8	761.4
40°	772.1	721.0	697.6
42.5°	699.7	653.0	629.6
45°	625.3	587.0	563.6
47.5°	557.2	525.3	499.8
50°	495.6	463.7	450.9
52.5°	436.0	414.7	421.1
55°	380.7	380.7	378.6
57.5°	327.5	342.4	344.6
60°	287.1	306.3	310.5



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	197.8	208.4	212.7
70°	170.2	178.7	180.8
72.5°	144.6	151.0	155.3
75°	117.0	125.5	125.5
77.5°	95.7	100.0	102.1
80°	72.3	74.4	76.6
82.5°	51.0	53.2	55.3
85°	29.8	31.9	34.0
87.5°	12.8	12.8	12.8
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



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Scaled Data Report





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

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Scaled Data Report





62.5°	429.6	433.9	427.5	416.9	406.2	387.1	365.8	336.0	314.8	297.8	268.0
65°	376.5	378.6	374.3	363.7	353.1	333.9	312.7	287.1	270.1	253.1	227.6

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Scaled Data Report



62.5°	257.4	272.2	274.4
65°	225.5	238.2	240.3

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Scaled Data Report



(END OF REPORT)