

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: P838696

Luminaire Tested: HCSQ655D010-HM64560827-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838696
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-HM64560827-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

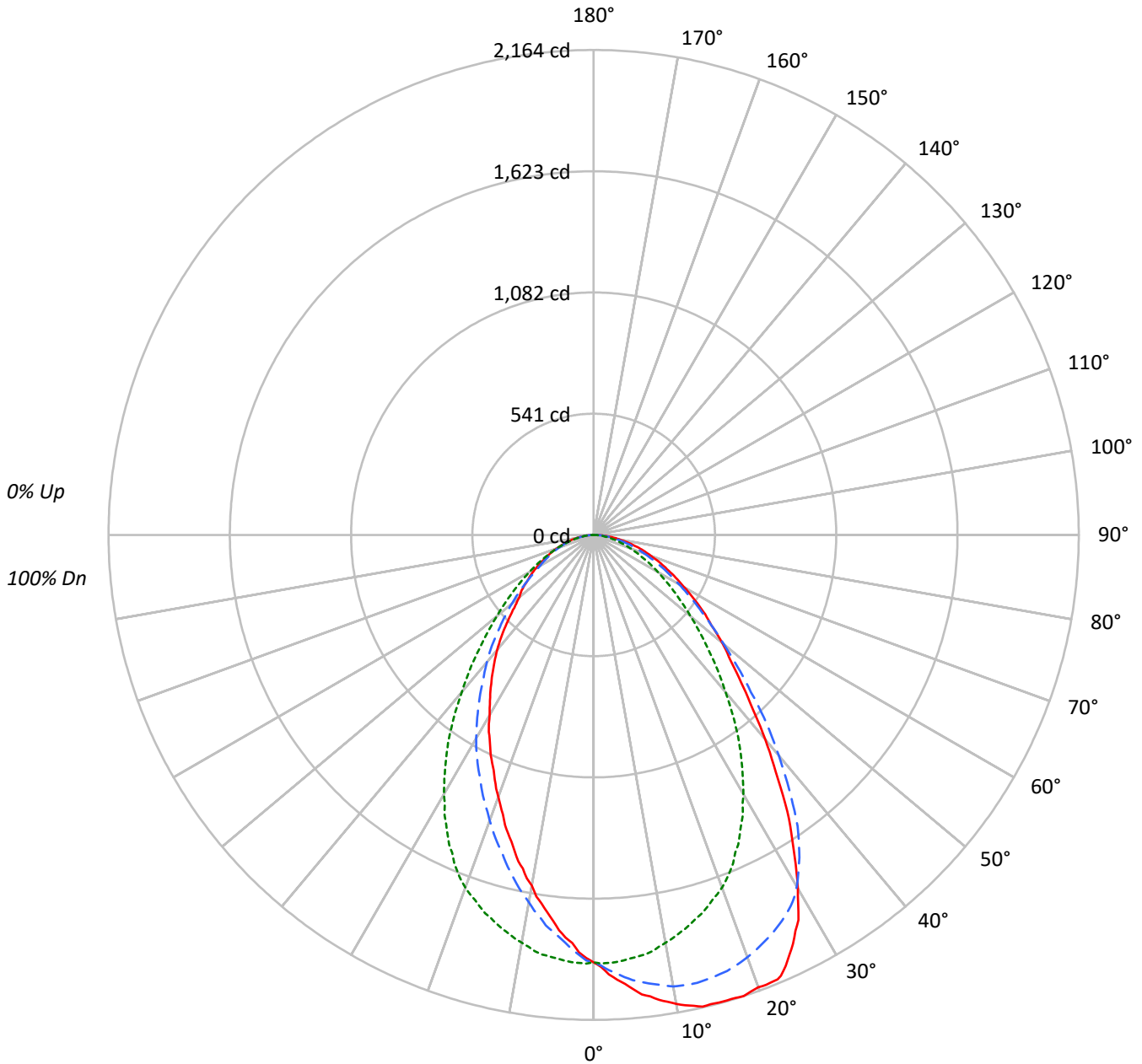
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3606.4 lumens
Efficiency: N/A
Efficacy: 66.8 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 (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

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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°	184751	184751	184751	184751	184751
5°	197972	193898	184465	174935	172154
10°	209095	201265	181778	163707	156270
15°	216663	204994	177548	151753	142125
20°	221453	206716	172618	139773	128196
25°	220878	206694	163040	128119	116115
30°	203746	202711	149381	117176	103696
35°	178211	187512	133779	104805	93936
40°	150540	162295	115687	93734	84692
45°	127289	135954	99025	82243	74132
50°	112943	114013	84941	71708	65243
55°	101051	97597	73453	61732	61394
60°	90210	85057	64093	53417	57757
65°	82843	75599	55702	49605	52883
70°	76334	67667	49171	46282	49171
75°	71828	60374	42782	42034	45103
80°	66053	54115	37601	38717	41004
85°	65802	48796	31789	31789	36347

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 137071 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.9	5.0
10°-20°	501.4	13.9
20°-30°	715.2	19.8
30°-40°	737.0	20.4
40°-50°	593.3	16.5
50°-60°	419.5	11.6
60°-70°	271.9	7.5
70°-80°	146.1	4.1
80°-90°	42.2	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°	1396.4	38.7
0°-40°	2133.4	59.2
0°-60°	3146.2	87.2
0°-90°	3606.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3606.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1907	1907	1907	1907	1907	
5°	2036	1994	1897	1799	1770	197
15°	2160	2044	1770	1513	1417	611
25°	2066	1934	1525	1199	1086	941
35°	1507	1586	1131	886	794	935
45°	929	992	723	600	541	726
55°	598	578	435	366	364	535
65°	361	330	243	216	231	361
75°	192	161	114	112	120	204
85°	59	44	29	29	33	65
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°	1907.1	1907.1	1907.1	1907.1	1907.1	1907.1	1907.1	1907.1	1907.1	1907.1	1907.1
1°	1927.6	1935.7	1929.6	1929.6	1923.5	1921.4	1925.5	1919.4	1917.3	1913.3	1905.1
2°	1962.3	1956.1	1954.1	1956.1	1943.9	1943.9	1937.8	1925.5	1919.4	1911.2	1888.8
3°	1986.8	1982.7	1978.6	1976.6	1964.3	1954.1	1945.9	1931.6	1919.4	1909.2	1876.5
4°	2009.2	2009.2	2005.2	1997.0	1984.7	1972.5	1956.1	1939.8	1921.4	1903.1	1860.2
5°	2035.8	2037.8	2019.4	2017.4	2003.1	1984.7	1966.4	1943.9	1921.4	1896.9	1850.0
6°	2062.3	2052.1	2048.0	2033.7	2013.3	1997.0	1974.5	1950.0	1919.4	1890.8	1827.5
7°	2074.6	2072.5	2062.3	2048.0	2029.7	2003.1	1980.6	1948.0	1915.3	1886.7	1811.2
8°	2095.0	2095.0	2082.7	2064.4	2037.8	2013.3	1984.7	1945.9	1913.3	1876.5	1788.7
9°	2109.3	2109.3	2093.0	2076.6	2052.1	2019.4	1986.8	1943.9	1903.1	1860.2	1768.3
10°	2125.6	2121.5	2109.3	2084.8	2064.4	2027.6	1986.8	1941.9	1896.9	1847.9	1747.9
11°	2137.9	2131.7	2117.5	2099.1	2066.4	2029.7	1986.8	1941.9	1888.8	1835.7	1727.5
12°	2148.1	2144.0	2125.6	2103.2	2070.5	2033.7	1984.7	1933.7	1874.5	1819.3	1700.9
13°	2160.3	2148.1	2129.7	2109.3	2072.5	2029.7	1976.6	1921.4	1864.3	1805.0	1678.4
14°	2158.3	2156.3	2139.9	2111.3	2070.5	2025.6	1974.5	1909.2	1850.0	1788.7	1651.9
15°	2160.3	2158.3	2139.9	2113.4	2068.5	2019.4	1968.4	1901.0	1835.7	1770.3	1625.4
16°	2160.3	2160.3	2135.8	2109.3	2066.4	2013.3	1956.1	1892.8	1821.4	1756.0	1602.9
17°	2160.3	2160.3	2139.9	2103.2	2060.3	2009.2	1943.9	1876.5	1805.0	1735.6	1570.2
18°	2164.4	2158.3	2131.7	2101.1	2052.1	1999.0	1935.7	1864.3	1790.8	1713.2	1547.8
19°	2154.2	2150.1	2127.7	2088.9	2046.0	1986.8	1923.5	1850.0	1776.5	1694.8	1521.2
20°	2148.1	2154.2	2123.6	2082.7	2033.7	1976.6	1911.2	1835.7	1756.0	1674.4	1494.7
21°	2150.1	2148.1	2115.4	2072.5	2025.6	1962.3	1896.9	1819.3	1733.6	1649.9	1470.2
22.5°	2146.0	2139.9	2105.2	2058.2	2001.1	1943.9	1872.4	1792.8	1700.9	1607.0	1423.2
23°	2137.9	2131.7	2105.2	2054.2	1992.9	1935.7	1860.2	1776.5	1688.7	1592.7	1411.0
24°	2105.2	2103.2	2090.9	2039.9	1982.7	1919.4	1845.9	1749.9	1651.9	1551.8	1380.3
25°	2066.4	2070.5	2064.4	2031.7	1966.4	1901.0	1823.4	1717.2	1617.2	1525.3	1343.6
26°	2029.7	2029.7	2025.6	2013.3	1950.0	1880.6	1790.8	1678.4	1582.5	1486.5	1304.8
27°	1982.7	1990.9	1982.7	1976.6	1933.7	1858.1	1756.0	1651.9	1543.7	1449.8	1272.1
28°	1945.9	1945.9	1941.9	1931.6	1917.3	1831.6	1719.3	1613.1	1506.9	1417.1	1235.4
29°	1880.6	1892.8	1894.9	1896.9	1894.9	1796.9	1684.6	1570.2	1468.1	1370.1	1200.6
30°	1821.4	1833.6	1841.8	1856.1	1858.1	1766.2	1643.7	1535.5	1431.4	1335.4	1170.0
32.5°	1660.1	1682.5	1705.0	1729.5	1741.7	1674.4	1543.7	1425.2	1319.1	1233.3	1076.1
35°	1506.9	1513.1	1537.6	1594.7	1607.0	1564.1	1425.2	1312.9	1212.9	1131.2	988.3
37.5°	1333.4	1345.6	1380.3	1445.7	1449.8	1415.0	1319.1	1188.4	1094.5	1023.0	898.4
40°	1190.4	1196.6	1221.1	1276.2	1294.6	1272.1	1188.4	1070.0	984.2	914.8	812.7
42.5°	1047.5	1055.7	1086.3	1129.2	1155.7	1129.2	1055.7	953.6	869.9	818.8	731.0
45°	929.1	939.3	967.9	992.4	1000.5	984.2	918.9	835.1	775.9	722.8	655.5
47.5°	827.0	837.2	857.6	867.8	878.0	861.7	810.6	741.2	682.0	639.1	577.9
50°	749.4	747.3	761.6	765.7	765.7	747.3	704.5	647.3	598.3	563.6	512.5
52.5°	661.6	665.7	675.9	671.8	669.7	653.4	616.7	567.6	526.8	496.2	449.2
55°	598.3	592.2	598.3	594.2	586.0	569.7	537.0	496.2	461.5	434.9	392.0
57.5°	528.9	528.9	530.9	522.7	512.5	494.1	465.6	432.9	402.3	379.8	345.1
60°	465.6	469.6	467.6	459.4	449.2	428.8	406.3	373.7	347.1	330.8	298.1



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	<i>316.5</i>	316.5	310.4	304.2	290.0	271.6	255.2	234.8	220.5	206.2	185.8
70°	<i>269.5</i>	273.6	265.4	255.2	245.0	232.8	214.4	198.1	183.8	173.6	157.2
72.5°	<i>232.8</i>	230.7	224.6	214.4	206.2	191.9	175.6	163.4	151.1	142.9	130.7
75°	<i>191.9</i>	191.9	185.8	177.6	167.4	155.2	142.9	132.7	122.5	114.3	108.2
77.5°	<i>153.1</i>	155.2	149.1	142.9	134.8	122.5	112.3	104.1	96.0	89.8	85.8
80°	<i>118.4</i>	120.5	114.3	110.3	100.1	93.9	85.8	77.6	71.5	67.4	65.3
82.5°	<i>89.8</i>	87.8	83.7	81.7	73.5	67.4	59.2	55.1	51.0	47.0	47.0
85°	<i>59.2</i>	57.2	55.1	53.1	47.0	40.8	38.8	34.7	30.6	28.6	28.6
87.5°	<i>30.6</i>	30.6	28.6	26.5	24.5	20.4	18.4	14.3	12.3	12.3	12.3
90°	<i>0.0</i>	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°	1907.1	1907.1	1907.1
1°	1899.0	1890.8	1888.8
2°	1874.5	1862.2	1864.3
3°	1852.0	1837.7	1823.4
4°	1823.4	1801.0	1801.0
5°	1798.9	1776.5	1770.3
6°	1776.5	1739.7	1731.5
7°	1756.0	1711.1	1696.8
8°	1721.3	1676.4	1662.1
9°	1696.8	1647.8	1633.5
10°	1664.2	1615.1	1588.6
11°	1637.6	1582.5	1562.1
12°	1609.0	1541.6	1521.2
13°	1576.4	1506.9	1494.7
14°	1545.7	1478.3	1455.9
15°	1513.1	1443.6	1417.1
16°	1478.3	1408.9	1384.4
17°	1449.8	1372.2	1353.8
18°	1421.2	1339.5	1310.9
19°	1386.5	1308.9	1276.2
20°	1355.8	1270.1	1243.5
21°	1323.2	1241.5	1212.9
22.5°	1278.2	1186.3	1159.8
23°	1263.9	1170.0	1141.4
24°	1231.3	1137.3	1112.8
25°	1198.6	1112.8	1086.3
26°	1170.0	1076.1	1051.6
27°	1141.4	1047.5	1021.0
28°	1110.8	1016.9	996.4
29°	1080.2	984.2	963.8
30°	1047.5	961.7	927.0
32.5°	965.8	888.2	859.6
35°	886.2	818.8	794.3
37.5°	808.6	753.5	731.0
40°	741.2	692.2	669.7
42.5°	671.8	626.9	604.4
45°	600.3	563.6	541.1
47.5°	535.0	504.4	479.8
50°	475.8	445.1	432.9
52.5°	418.6	398.2	404.3
55°	365.5	365.5	363.5
57.5°	314.5	328.7	330.8
60°	275.7	294.0	298.1



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	189.9	200.1	204.2
70°	163.4	171.5	173.6
72.5°	138.8	145.0	149.1
75°	112.3	120.5	120.5
77.5°	91.9	96.0	98.0
80°	69.4	71.5	73.5
82.5°	49.0	51.0	53.1
85°	28.6	30.6	32.7
87.5°	12.3	12.3	12.3
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°	412.5	416.5	410.4	400.2	390.0	371.6	351.2	322.6	302.2	285.9	257.3
65°	361.4	363.5	359.4	349.2	339.0	320.6	300.2	275.7	259.3	243.0	218.5

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Scaled Data Report





62.5°	247.1	261.4	263.4
65°	216.4	228.7	230.7

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Scaled Data Report



(END OF REPORT)