

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: P838551

Luminaire Tested: HCSQ635D010-HM63040840-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838551
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: HCSQ635D010-HM63040840-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

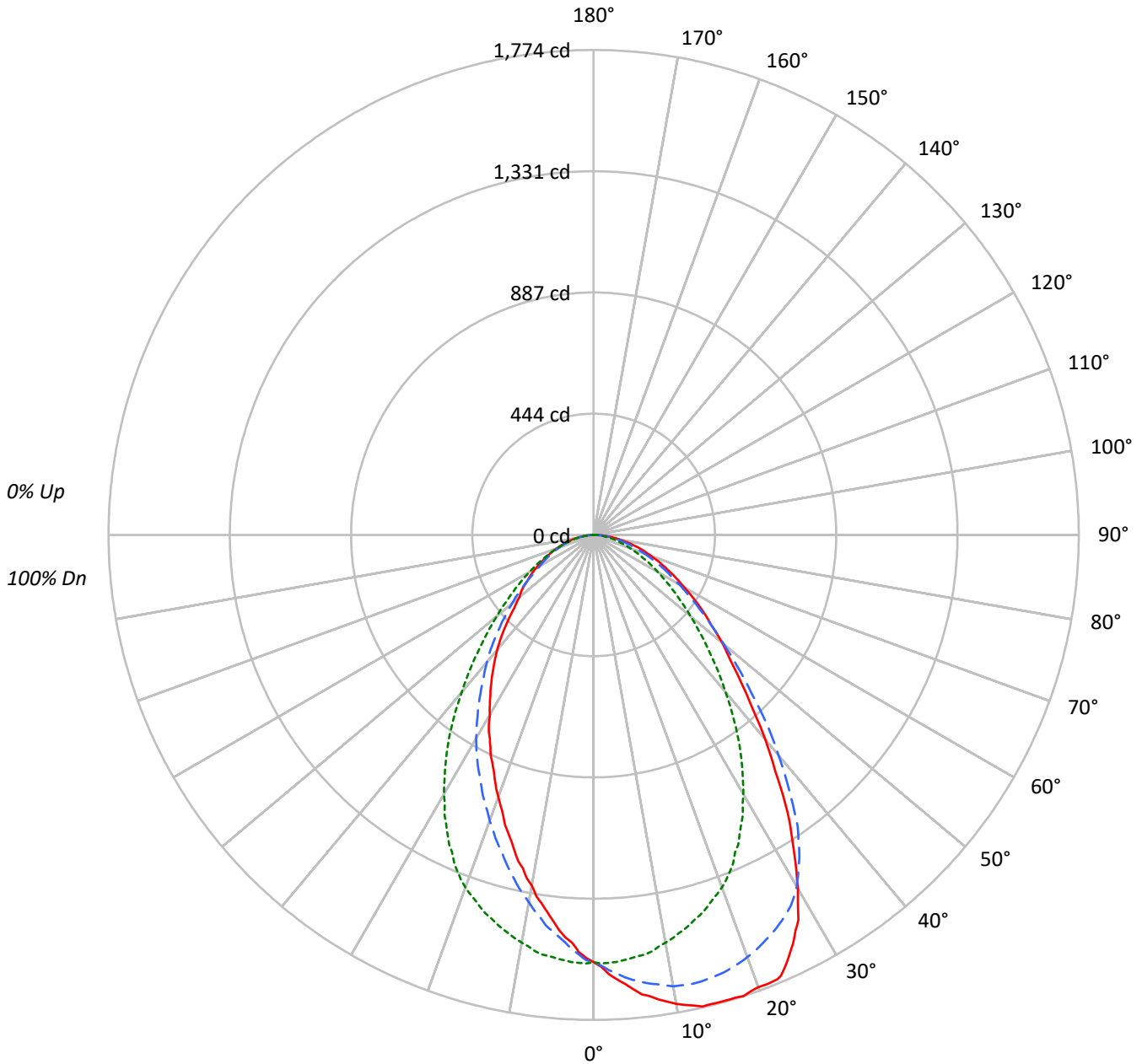
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2955.6 lumens
Efficiency: N/A
Efficacy: 86.9 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): 34
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	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°	151416	151416	151416	151416	151416
5°	162244	158909	151178	143369	141093
10°	171360	164942	148971	134157	128068
15°	177568	168001	145515	124363	116480
20°	181484	169412	141464	114557	105062
25°	181019	169394	133613	104998	95164
30°	166977	166132	122422	96034	84982
35°	146055	153671	109642	85894	76989
40°	123376	133000	94808	76826	69415
45°	104314	111424	81160	67405	60761
50°	92552	93441	69614	58762	53472
55°	82810	79990	60195	50585	50314
60°	73916	69712	52526	43768	47333
65°	67897	61949	45639	40665	43347
70°	62569	55459	40277	37926	40277
75°	58877	49482	35072	34435	36943
80°	54170	44352	30795	31744	33585
85°	53909	40015	26010	26010	29789

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 112342 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.4	5.0
10°-20°	410.9	13.9
20°-30°	586.1	19.8
30°-40°	604.0	20.4
40°-50°	486.2	16.5
50°-60°	343.8	11.6
60°-70°	222.8	7.5
70°-80°	119.7	4.1
80°-90°	34.6	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°	1144.4	38.7
0°-40°	1748.4	59.2
0°-60°	2578.5	87.2
0°-90°	2955.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2955.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1563	1563	1563	1563	1563	
5°	1668	1634	1555	1474	1451	162
15°	1770	1675	1451	1240	1161	501
25°	1694	1585	1250	982	890	771
35°	1235	1299	927	726	651	767
45°	761	813	592	492	444	595
55°	490	474	356	300	298	438
65°	296	270	199	177	189	295
75°	157	132	94	92	99	167
85°	48	36	23	23	27	53
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°	1563.0	1563.0	1563.0	1563.0	1563.0	1563.0	1563.0	1563.0	1563.0	1563.0	1563.0
1°	1579.7	1586.4	1581.4	1581.4	1576.4	1574.7	1578.0	1573.0	1571.3	1568.0	1561.3
2°	1608.2	1603.1	1601.5	1603.1	1593.1	1593.1	1588.1	1578.0	1573.0	1566.3	1547.9
3°	1628.2	1624.9	1621.5	1619.9	1609.8	1601.5	1594.8	1583.1	1573.0	1564.6	1537.9
4°	1646.6	1646.6	1643.3	1636.6	1626.6	1616.5	1603.1	1589.7	1574.7	1559.6	1524.5
5°	1668.4	1670.1	1655.0	1653.3	1641.6	1626.6	1611.5	1593.1	1574.7	1554.6	1516.1
6°	1690.2	1681.8	1678.4	1666.7	1650.0	1636.6	1618.2	1598.1	1573.0	1549.6	1497.7
7°	1700.2	1698.5	1690.2	1678.4	1663.4	1641.6	1623.2	1596.4	1569.7	1546.2	1484.3
8°	1716.9	1716.9	1706.9	1691.8	1670.1	1650.0	1626.6	1594.8	1568.0	1537.9	1465.9
9°	1728.6	1728.6	1715.3	1701.9	1681.8	1655.0	1628.2	1593.1	1559.6	1524.5	1449.2
10°	1742.0	1738.7	1728.6	1708.6	1691.8	1661.7	1628.2	1591.4	1554.6	1514.4	1432.4
11°	1752.1	1747.0	1735.3	1720.3	1693.5	1663.4	1628.2	1591.4	1547.9	1504.4	1415.7
12°	1760.4	1757.1	1742.0	1723.6	1696.8	1666.7	1626.6	1584.7	1536.2	1491.0	1394.0
13°	1770.5	1760.4	1745.4	1728.6	1698.5	1663.4	1619.9	1574.7	1527.8	1479.3	1375.6
14°	1768.8	1767.1	1753.7	1730.3	1696.8	1660.0	1618.2	1564.6	1516.1	1465.9	1353.8
15°	1770.5	1768.8	1753.7	1732.0	1695.2	1655.0	1613.2	1558.0	1504.4	1450.9	1332.0
16°	1770.5	1770.5	1750.4	1728.6	1693.5	1650.0	1603.1	1551.3	1492.7	1439.1	1313.6
17°	1770.5	1770.5	1753.7	1723.6	1688.5	1646.6	1593.1	1537.9	1479.3	1422.4	1286.9
18°	1773.8	1768.8	1747.0	1721.9	1681.8	1638.3	1586.4	1527.8	1467.6	1404.0	1268.5
19°	1765.5	1762.1	1743.7	1711.9	1676.8	1628.2	1576.4	1516.1	1455.9	1388.9	1246.7
20°	1760.4	1765.5	1740.4	1706.9	1666.7	1619.9	1566.3	1504.4	1439.1	1372.2	1224.9
21°	1762.1	1760.4	1733.7	1698.5	1660.0	1608.2	1554.6	1491.0	1420.7	1352.1	1204.9
22.5°	1758.8	1753.7	1725.3	1686.8	1640.0	1593.1	1534.5	1469.3	1394.0	1317.0	1166.4
23°	1752.1	1747.0	1725.3	1683.5	1633.3	1586.4	1524.5	1455.9	1383.9	1305.3	1156.3
24°	1725.3	1723.6	1713.6	1671.7	1624.9	1573.0	1512.8	1434.1	1353.8	1271.8	1131.2
25°	1693.5	1696.8	1691.8	1665.1	1611.5	1558.0	1494.4	1407.3	1325.3	1250.0	1101.1
26°	1663.4	1663.4	1660.0	1650.0	1598.1	1541.2	1467.6	1375.6	1296.9	1218.2	1069.3
27°	1624.9	1631.6	1624.9	1619.9	1584.7	1522.8	1439.1	1353.8	1265.1	1188.1	1042.5
28°	1594.8	1594.8	1591.4	1583.1	1571.3	1501.1	1409.0	1322.0	1235.0	1161.4	1012.4
29°	1541.2	1551.3	1552.9	1554.6	1552.9	1472.6	1380.6	1286.9	1203.2	1122.9	984.0
30°	1492.7	1502.7	1509.4	1521.1	1522.8	1447.5	1347.1	1258.4	1173.1	1094.4	958.9
32.5°	1360.5	1378.9	1397.3	1417.4	1427.4	1372.2	1265.1	1168.0	1081.0	1010.7	881.9
35°	1235.0	1240.0	1260.1	1306.9	1317.0	1281.8	1168.0	1076.0	994.0	927.1	809.9
37.5°	1092.7	1102.8	1131.2	1184.8	1188.1	1159.7	1081.0	973.9	897.0	838.4	736.3
40°	975.6	980.6	1000.7	1045.9	1060.9	1042.5	973.9	876.9	806.6	749.7	666.0
42.5°	858.5	865.2	890.3	925.4	947.2	925.4	865.2	781.5	712.9	671.0	599.1
45°	761.4	769.8	793.2	813.3	820.0	806.6	753.0	684.4	635.9	592.4	537.2
47.5°	677.7	686.1	702.8	711.2	719.6	706.2	664.3	607.5	558.9	523.8	473.6
50°	614.1	612.5	624.2	627.5	627.5	612.5	577.3	530.5	490.3	461.9	420.0
52.5°	542.2	545.5	553.9	550.6	548.9	535.5	505.4	465.2	431.7	406.6	368.2
55°	490.3	485.3	490.3	487.0	480.3	466.9	440.1	406.6	378.2	356.4	321.3
57.5°	433.4	433.4	435.1	428.4	420.0	405.0	381.5	354.8	329.7	311.3	282.8
60°	381.5	384.9	383.2	376.5	368.2	351.4	333.0	306.2	284.5	271.1	244.3



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	259.4	259.4	254.4	249.3	237.6	222.6	209.2	192.4	180.7	169.0	152.3
70°	220.9	224.2	217.5	209.2	200.8	190.8	175.7	162.3	150.6	142.2	128.9
72.5°	190.8	189.1	184.1	175.7	169.0	157.3	143.9	133.9	123.8	117.1	107.1
75°	157.3	157.3	152.3	145.6	137.2	127.2	117.1	108.8	100.4	93.7	88.7
77.5°	125.5	127.2	122.2	117.1	110.4	100.4	92.0	85.3	78.7	73.6	70.3
80°	97.1	98.7	93.7	90.4	82.0	77.0	70.3	63.6	58.6	55.2	53.5
82.5°	73.6	72.0	68.6	66.9	60.2	55.2	48.5	45.2	41.8	38.5	38.5
85°	48.5	46.9	45.2	43.5	38.5	33.5	31.8	28.4	25.1	23.4	23.4
87.5°	25.1	25.1	23.4	21.8	20.1	16.7	15.1	11.7	10.0	10.0	10.0
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°	1563.0	1563.0	1563.0
1°	1556.3	1549.6	1547.9
2°	1536.2	1526.2	1527.8
3°	1517.8	1506.1	1494.4
4°	1494.4	1476.0	1476.0
5°	1474.3	1455.9	1450.9
6°	1455.9	1425.8	1419.1
7°	1439.1	1402.3	1390.6
8°	1410.7	1373.9	1362.2
9°	1390.6	1350.4	1338.7
10°	1363.8	1323.7	1301.9
11°	1342.1	1296.9	1280.2
12°	1318.7	1263.4	1246.7
13°	1291.9	1235.0	1224.9
14°	1266.8	1211.6	1193.1
15°	1240.0	1183.1	1161.4
16°	1211.6	1154.7	1134.6
17°	1188.1	1124.5	1109.5
18°	1164.7	1097.8	1074.3
19°	1136.3	1072.7	1045.9
20°	1111.2	1040.9	1019.1
21°	1084.4	1017.4	994.0
22.5°	1047.6	972.3	950.5
23°	1035.8	958.9	935.4
24°	1009.1	932.1	912.0
25°	982.3	912.0	890.3
26°	958.9	881.9	861.8
27°	935.4	858.5	836.7
28°	910.3	833.4	816.6
29°	885.2	806.6	789.9
30°	858.5	788.2	759.7
32.5°	791.5	727.9	704.5
35°	726.3	671.0	651.0
37.5°	662.7	617.5	599.1
40°	607.5	567.3	548.9
42.5°	550.6	513.7	495.3
45°	492.0	461.9	443.5
47.5°	438.4	413.3	393.3
50°	389.9	364.8	354.8
52.5°	343.1	326.3	331.3
55°	299.5	299.5	297.9
57.5°	257.7	269.4	271.1
60°	225.9	241.0	244.3



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	155.6	164.0	167.3
70°	133.9	140.6	142.2
72.5°	113.8	118.8	122.2
75°	92.0	98.7	98.7
77.5°	75.3	78.7	80.3
80°	56.9	58.6	60.2
82.5°	40.2	41.8	43.5
85°	23.4	25.1	26.8
87.5°	10.0	10.0	10.0
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



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Scaled Data Report





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

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62.5°	338.0	341.4	336.4	328.0	319.6	304.6	287.8	264.4	247.7	234.3	210.9
65°	296.2	297.9	294.5	286.2	277.8	262.7	246.0	225.9	212.5	199.1	179.1

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62.5°	202.5	214.2	215.9
65°	177.4	187.4	189.1

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Scaled Data Report



(END OF REPORT)