

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: P838576

Luminaire Tested: HCSQ640D010-HM63040827-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838576
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: HCSQ640D010-HM63040827-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

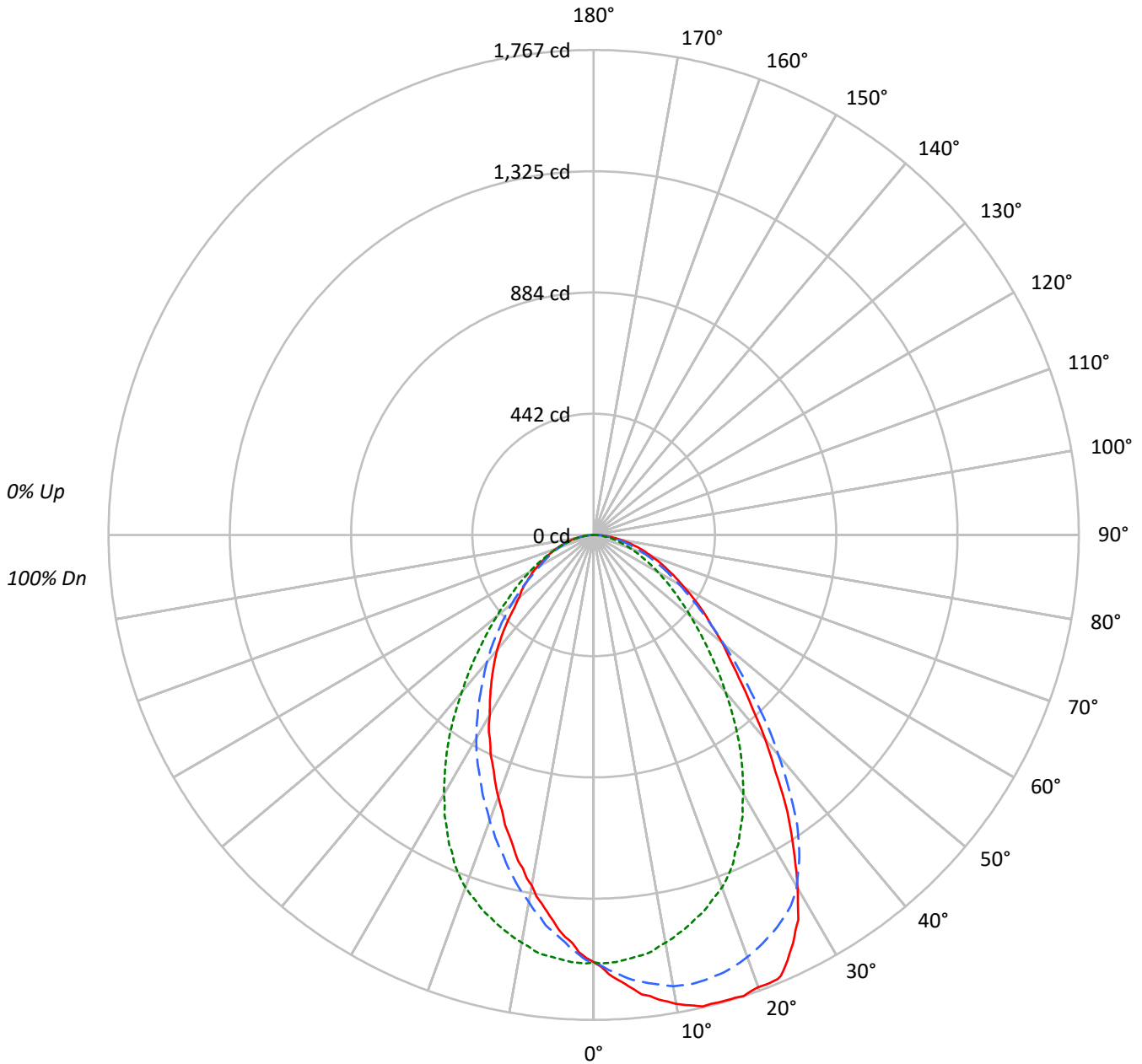
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2943.5 lumens
Efficiency: N/A
Efficacy: 71.8 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): 41
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					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			
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87					87			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75					75			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	69	63	85	75	68	62	73	66	62	71	65	61	68	64	60	58					58			
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	53	51					51			
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46					46			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42					42			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38					38			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34					34			
10	58	46	39	34	57	45	38	34	44	38	34	44	38	33	43	37	33	32					32			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	150796	150796	150796	150796	150796
5°	161583	158257	150565	142786	140510
10°	170662	164268	148371	133616	127546
15°	176846	167319	144913	123862	115999
20°	180752	168721	140886	114082	104639
25°	180281	168699	133078	104571	94769
30°	166294	165455	121930	95642	84635
35°	145464	153044	109192	85540	76670
40°	122870	132463	94416	76509	69124
45°	103889	110965	80832	67131	60514
50°	92175	93064	69327	58521	53246
55°	82472	79660	59958	50382	50112
60°	73625	69431	52313	43594	47140
65°	67622	61708	45456	40504	43163
70°	62314	55233	40136	37757	40136
75°	58652	49295	34922	34323	36793
80°	53947	44184	30684	31632	33473
85°	53686	39792	25898	25898	29678

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 111876 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.8	5.0
10°-20°	409.2	13.9
20°-30°	583.7	19.8
30°-40°	601.5	20.4
40°-50°	484.3	16.5
50°-60°	342.4	11.6
60°-70°	221.9	7.5
70°-80°	119.2	4.1
80°-90°	34.4	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°	1139.7	38.7
0°-40°	1741.3	59.2
0°-60°	2568.0	87.2
0°-90°	2943.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2943.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1557	1557	1557	1557	1557	
5°	1662	1627	1548	1468	1445	161
15°	1763	1668	1445	1235	1157	499
25°	1687	1578	1245	978	887	768
35°	1230	1294	923	723	648	764
45°	758	810	590	490	442	592
55°	488	472	355	298	297	437
65°	295	269	198	177	188	294
75°	157	132	93	92	98	166
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°	1556.6	1556.6	1556.6	1556.6	1556.6	1556.6	1556.6	1556.6	1556.6	1556.6	1556.6
1°	1573.3	1579.9	1574.9	1574.9	1569.9	1568.3	1571.6	1566.6	1564.9	1561.6	1554.9
2°	1601.6	1596.6	1594.9	1596.6	1586.6	1586.6	1581.6	1571.6	1566.6	1559.9	1541.6
3°	1621.6	1618.3	1614.9	1613.3	1603.3	1594.9	1588.3	1576.6	1566.6	1558.3	1531.6
4°	1639.9	1639.9	1636.6	1629.9	1619.9	1609.9	1596.6	1583.3	1568.3	1553.3	1518.3
5°	1661.6	1663.3	1648.3	1646.6	1634.9	1619.9	1604.9	1586.6	1568.3	1548.3	1509.9
6°	1683.3	1674.9	1671.6	1659.9	1643.3	1629.9	1611.6	1591.6	1566.6	1543.3	1491.6
7°	1693.3	1691.6	1683.3	1671.6	1656.6	1634.9	1616.6	1589.9	1563.3	1539.9	1478.3
8°	1709.9	1709.9	1699.9	1684.9	1663.3	1643.3	1619.9	1588.3	1561.6	1531.6	1459.9
9°	1721.6	1721.6	1708.3	1694.9	1674.9	1648.3	1621.6	1586.6	1553.3	1518.3	1443.3
10°	1734.9	1731.6	1721.6	1701.6	1684.9	1654.9	1621.6	1584.9	1548.3	1508.3	1426.6
11°	1744.9	1739.9	1728.3	1713.3	1686.6	1656.6	1621.6	1584.9	1541.6	1498.3	1409.9
12°	1753.3	1749.9	1734.9	1716.6	1689.9	1659.9	1619.9	1578.3	1529.9	1484.9	1388.3
13°	1763.3	1753.3	1738.3	1721.6	1691.6	1656.6	1613.3	1568.3	1521.6	1473.3	1369.9
14°	1761.6	1759.9	1746.6	1723.3	1689.9	1653.3	1611.6	1558.3	1509.9	1459.9	1348.3
15°	1763.3	1761.6	1746.6	1724.9	1688.3	1648.3	1606.6	1551.6	1498.3	1444.9	1326.6
16°	1763.3	1763.3	1743.3	1721.6	1686.6	1643.3	1596.6	1544.9	1486.6	1433.3	1308.3
17°	1763.3	1763.3	1746.6	1716.6	1681.6	1639.9	1586.6	1531.6	1473.3	1416.6	1281.6
18°	1766.6	1761.6	1739.9	1714.9	1674.9	1631.6	1579.9	1521.6	1461.6	1398.3	1263.3
19°	1758.3	1754.9	1736.6	1704.9	1669.9	1621.6	1569.9	1509.9	1449.9	1383.3	1241.6
20°	1753.3	1758.3	1733.3	1699.9	1659.9	1613.3	1559.9	1498.3	1433.3	1366.6	1220.0
21°	1754.9	1753.3	1726.6	1691.6	1653.3	1601.6	1548.3	1484.9	1414.9	1346.6	1200.0
22.5°	1751.6	1746.6	1718.3	1679.9	1633.3	1586.6	1528.3	1463.3	1388.3	1311.6	1161.6
23°	1744.9	1739.9	1718.3	1676.6	1626.6	1579.9	1518.3	1449.9	1378.3	1300.0	1151.6
24°	1718.3	1716.6	1706.6	1664.9	1618.3	1566.6	1506.6	1428.3	1348.3	1266.6	1126.6
25°	1686.6	1689.9	1684.9	1658.3	1604.9	1551.6	1488.3	1401.6	1320.0	1245.0	1096.6
26°	1656.6	1656.6	1653.3	1643.3	1591.6	1534.9	1461.6	1369.9	1291.6	1213.3	1065.0
27°	1618.3	1624.9	1618.3	1613.3	1578.3	1516.6	1433.3	1348.3	1260.0	1183.3	1038.3
28°	1588.3	1588.3	1584.9	1576.6	1564.9	1494.9	1403.3	1316.6	1230.0	1156.6	1008.3
29°	1534.9	1544.9	1546.6	1548.3	1546.6	1466.6	1374.9	1281.6	1198.3	1118.3	980.0
30°	1486.6	1496.6	1503.3	1514.9	1516.6	1441.6	1341.6	1253.3	1168.3	1090.0	955.0
32.5°	1354.9	1373.3	1391.6	1411.6	1421.6	1366.6	1260.0	1163.3	1076.6	1006.6	878.3
35°	1230.0	1235.0	1255.0	1301.6	1311.6	1276.6	1163.3	1071.6	990.0	923.3	806.6
37.5°	1088.3	1098.3	1126.6	1180.0	1183.3	1155.0	1076.6	970.0	893.3	835.0	733.3
40°	971.6	976.6	996.6	1041.6	1056.6	1038.3	970.0	873.3	803.3	746.6	663.3
42.5°	855.0	861.6	886.6	921.6	943.3	921.6	861.6	778.3	710.0	668.3	596.6
45°	758.3	766.6	790.0	810.0	816.6	803.3	750.0	681.6	633.3	590.0	535.0
47.5°	675.0	683.3	700.0	708.3	716.6	703.3	661.6	605.0	556.6	521.6	471.6
50°	611.6	610.0	621.6	625.0	625.0	610.0	575.0	528.3	488.3	460.0	418.3
52.5°	540.0	543.3	551.6	548.3	546.6	533.3	503.3	463.3	430.0	405.0	366.7
55°	488.3	483.3	488.3	485.0	478.3	465.0	438.3	405.0	376.7	355.0	320.0
57.5°	431.7	431.7	433.3	426.7	418.3	403.3	380.0	353.3	328.3	310.0	281.7
60°	380.0	383.3	381.7	375.0	366.7	350.0	331.7	305.0	283.3	270.0	243.3



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	258.3	258.3	253.3	248.3	236.7	221.7	208.3	191.7	180.0	168.3	151.7
70°	220.0	223.3	216.7	208.3	200.0	190.0	175.0	161.7	150.0	141.7	128.3
72.5°	190.0	188.3	183.3	175.0	168.3	156.7	143.3	133.3	123.3	116.7	106.7
75°	156.7	156.7	151.7	145.0	136.7	126.7	116.7	108.3	100.0	93.3	88.3
77.5°	125.0	126.7	121.7	116.7	110.0	100.0	91.7	85.0	78.3	73.3	70.0
80°	96.7	98.3	93.3	90.0	81.7	76.7	70.0	63.3	58.3	55.0	53.3
82.5°	73.3	71.7	68.3	66.7	60.0	55.0	48.3	45.0	41.7	38.3	38.3
85°	48.3	46.7	45.0	43.3	38.3	33.3	31.7	28.3	25.0	23.3	23.3
87.5°	25.0	25.0	23.3	21.7	20.0	16.7	15.0	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°	1556.6	1556.6	1556.6
1°	1549.9	1543.3	1541.6
2°	1529.9	1519.9	1521.6
3°	1511.6	1499.9	1488.3
4°	1488.3	1469.9	1469.9
5°	1468.3	1449.9	1444.9
6°	1449.9	1419.9	1413.3
7°	1433.3	1396.6	1384.9
8°	1404.9	1368.3	1356.6
9°	1384.9	1344.9	1333.3
10°	1358.3	1318.3	1296.6
11°	1336.6	1291.6	1275.0
12°	1313.3	1258.3	1241.6
13°	1286.6	1230.0	1220.0
14°	1261.6	1206.6	1188.3
15°	1235.0	1178.3	1156.6
16°	1206.6	1150.0	1130.0
17°	1183.3	1120.0	1105.0
18°	1160.0	1093.3	1070.0
19°	1131.6	1068.3	1041.6
20°	1106.6	1036.6	1015.0
21°	1080.0	1013.3	990.0
22.5°	1043.3	968.3	946.6
23°	1031.6	955.0	931.6
24°	1005.0	928.3	908.3
25°	978.3	908.3	886.6
26°	955.0	878.3	858.3
27°	931.6	855.0	833.3
28°	906.6	830.0	813.3
29°	881.6	803.3	786.6
30°	855.0	785.0	756.6
32.5°	788.3	725.0	701.6
35°	723.3	668.3	648.3
37.5°	660.0	615.0	596.6
40°	605.0	565.0	546.6
42.5°	548.3	511.6	493.3
45°	490.0	460.0	441.7
47.5°	436.7	411.7	391.7
50°	388.3	363.3	353.3
52.5°	341.7	325.0	330.0
55°	298.3	298.3	296.7
57.5°	256.7	268.3	270.0
60°	225.0	240.0	243.3



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	155.0	163.3	166.7
70°	133.3	140.0	141.7
72.5°	113.3	118.3	121.7
75°	91.7	98.3	98.3
77.5°	75.0	78.3	80.0
80°	56.7	58.3	60.0
82.5°	40.0	41.7	43.3
85°	23.3	25.0	26.7
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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Scaled Data Report





62.5°	336.7	340.0	335.0	326.7	318.3	303.3	286.7	263.3	246.7	233.3	210.0
65°	295.0	296.7	293.3	285.0	276.7	261.7	245.0	225.0	211.7	198.3	178.3

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62.5°	201.7	213.3	215.0
65°	176.7	186.7	188.3

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Scaled Data Report



(END OF REPORT)