

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: P838601

Luminaire Tested: HCSQ640D010-HM63040930-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838601
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-HM63040930-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

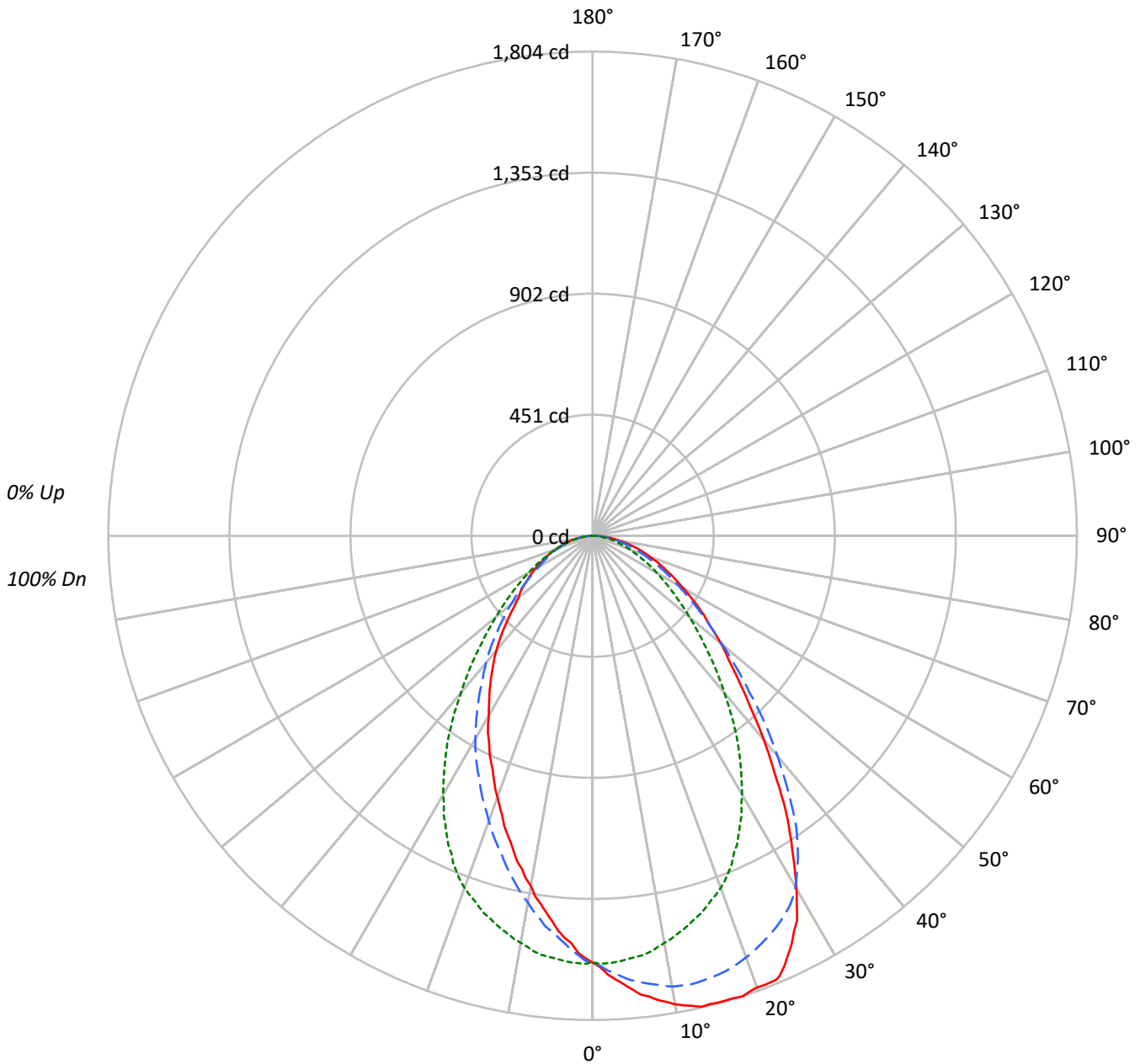
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3006.7 lumens
Efficiency: N/A
Efficacy: 73.3 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										
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°	154032	154032	154032	154032	154032
5°	165055	161656	153794	145849	143534
10°	174331	167799	151549	136478	130281
15°	180637	170904	148032	126519	118486
20°	184629	172345	143907	116536	106876
25°	184150	172323	135932	106815	96810
30°	169863	169012	124547	97689	86458
35°	148586	156332	111534	87373	78314
40°	125513	135308	96452	78153	70616
45°	106122	113349	82558	68570	61802
50°	94164	95061	70819	59787	54392
55°	84246	81375	61242	51463	51176
60°	75195	70913	53436	44524	48147
65°	69066	63026	46441	41375	44103
70°	63645	56422	40986	38578	40986
75°	59888	50343	35671	35034	37580
80°	55063	45105	31353	32301	34198
85°	54909	40682	26454	26454	30233

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 114288 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	5.0
10°-20°	418.0	13.9
20°-30°	596.2	19.8
30°-40°	614.5	20.4
40°-50°	494.7	16.5
50°-60°	349.8	11.6
60°-70°	226.7	7.5
70°-80°	121.8	4.1
80°-90°	35.2	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°	1164.2	38.7
0°-40°	1778.7	59.2
0°-60°	2623.1	87.2
0°-90°	3006.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3006.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1590	1590	1590	1590	1590	
5°	1697	1662	1582	1500	1476	164
15°	1801	1704	1476	1262	1181	509
25°	1723	1612	1272	999	906	784
35°	1256	1322	943	739	662	780
45°	775	827	603	500	451	605
55°	499	482	363	305	303	446
65°	301	275	203	180	192	301
75°	160	134	95	94	100	170
85°	49	37	24	24	27	54
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°	1590.0	1590.0	1590.0	1590.0	1590.0	1590.0	1590.0	1590.0	1590.0	1590.0	1590.0
1°	1607.0	1613.9	1608.7	1608.7	1603.6	1601.9	1605.3	1600.2	1598.5	1595.1	1588.3
2°	1636.0	1630.9	1629.2	1630.9	1620.7	1620.7	1615.6	1605.3	1600.2	1593.4	1574.7
3°	1656.4	1653.0	1649.6	1647.9	1637.7	1629.2	1622.4	1610.4	1600.2	1591.7	1564.5
4°	1675.1	1675.1	1671.7	1664.9	1654.7	1644.5	1630.9	1617.3	1601.9	1586.6	1550.9
5°	1697.3	1699.0	1683.6	1681.9	1670.0	1654.7	1639.4	1620.7	1601.9	1581.5	1542.4
6°	1719.4	1710.9	1707.5	1695.6	1678.5	1664.9	1646.2	1625.8	1600.2	1576.4	1523.6
7°	1729.6	1727.9	1719.4	1707.5	1692.2	1670.0	1651.3	1624.1	1596.8	1573.0	1510.0
8°	1746.6	1746.6	1736.4	1721.1	1699.0	1678.5	1654.7	1622.4	1595.1	1564.5	1491.3
9°	1758.6	1758.6	1744.9	1731.3	1710.9	1683.6	1656.4	1620.7	1586.6	1550.9	1474.3
10°	1772.2	1768.8	1758.6	1738.1	1721.1	1690.5	1656.4	1619.0	1581.5	1540.6	1457.2
11°	1782.4	1777.3	1765.4	1750.0	1722.8	1692.2	1656.4	1619.0	1574.7	1530.4	1440.2
12°	1790.9	1787.5	1772.2	1753.4	1726.2	1695.6	1654.7	1612.1	1562.8	1516.8	1418.1
13°	1801.1	1790.9	1775.6	1758.6	1727.9	1692.2	1647.9	1601.9	1554.3	1504.9	1399.4
14°	1799.4	1797.7	1784.1	1760.3	1726.2	1688.8	1646.2	1591.7	1542.4	1491.3	1377.2
15°	1801.1	1799.4	1784.1	1762.0	1724.5	1683.6	1641.1	1584.9	1530.4	1476.0	1355.1
16°	1801.1	1801.1	1780.7	1758.6	1722.8	1678.5	1630.9	1578.1	1518.5	1464.0	1336.4
17°	1801.1	1801.1	1784.1	1753.4	1717.7	1675.1	1620.7	1564.5	1504.9	1447.0	1309.1
18°	1804.5	1799.4	1777.3	1751.7	1710.9	1666.6	1613.9	1554.3	1493.0	1428.3	1290.4
19°	1796.0	1792.6	1773.9	1741.5	1705.8	1656.4	1603.6	1542.4	1481.1	1413.0	1268.3
20°	1790.9	1796.0	1770.5	1736.4	1695.6	1647.9	1593.4	1530.4	1464.0	1395.9	1246.1
21°	1792.6	1790.9	1763.7	1727.9	1688.8	1636.0	1581.5	1516.8	1445.3	1375.5	1225.7
22.5°	1789.2	1784.1	1755.1	1716.0	1668.3	1620.7	1561.1	1494.7	1418.1	1339.8	1186.6
23°	1782.4	1777.3	1755.1	1712.6	1661.5	1613.9	1550.9	1481.1	1407.9	1327.9	1176.3
24°	1755.1	1753.4	1743.2	1700.7	1653.0	1600.2	1538.9	1458.9	1377.2	1293.8	1150.8
25°	1722.8	1726.2	1721.1	1693.9	1639.4	1584.9	1520.2	1431.7	1348.3	1271.7	1120.2
26°	1692.2	1692.2	1688.8	1678.5	1625.8	1567.9	1493.0	1399.4	1319.3	1239.3	1087.8
27°	1653.0	1659.8	1653.0	1647.9	1612.1	1549.2	1464.0	1377.2	1287.0	1208.7	1060.6
28°	1622.4	1622.4	1619.0	1610.4	1598.5	1527.0	1433.4	1344.9	1256.4	1181.4	1029.9
29°	1567.9	1578.1	1579.8	1581.5	1579.8	1498.1	1404.5	1309.1	1224.0	1142.3	1001.0
30°	1518.5	1528.7	1535.5	1547.5	1549.2	1472.6	1370.4	1280.2	1193.4	1113.4	975.5
32.5°	1384.0	1402.8	1421.5	1441.9	1452.1	1395.9	1287.0	1188.3	1099.7	1028.2	897.2
35°	1256.4	1261.5	1281.9	1329.6	1339.8	1304.0	1188.3	1094.6	1011.2	943.1	823.9
37.5°	1111.7	1121.9	1150.8	1205.3	1208.7	1179.7	1099.7	990.8	912.5	852.9	749.0
40°	992.5	997.6	1018.0	1064.0	1079.3	1060.6	990.8	892.0	820.5	762.7	677.5
42.5°	873.3	880.1	905.7	941.4	963.5	941.4	880.1	795.0	725.2	682.7	609.4
45°	774.6	783.1	806.9	827.4	834.2	820.5	766.1	696.3	646.9	602.6	546.5
47.5°	689.5	698.0	715.0	723.5	732.0	718.4	675.8	618.0	568.6	532.8	481.8
50°	624.8	623.1	635.0	638.4	638.4	623.1	587.3	539.7	498.8	469.9	427.3
52.5°	551.6	555.0	563.5	560.1	558.4	544.8	514.1	473.3	439.2	413.7	374.5
55°	498.8	493.7	498.8	495.4	488.6	475.0	447.7	413.7	384.7	362.6	326.9
57.5°	440.9	440.9	442.6	435.8	427.3	412.0	388.1	360.9	335.4	316.6	287.7
60°	388.1	391.5	389.8	383.0	374.5	357.5	338.8	311.5	289.4	275.8	248.5



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	263.9	263.9	258.8	253.7	241.7	226.4	212.8	195.8	183.9	171.9	154.9
70°	224.7	228.1	221.3	212.8	204.3	194.1	178.7	165.1	153.2	144.7	131.1
72.5°	194.1	192.4	187.3	178.7	171.9	160.0	146.4	136.2	126.0	119.2	109.0
75°	160.0	160.0	154.9	148.1	139.6	129.4	119.2	110.7	102.1	95.3	90.2
77.5°	127.7	129.4	124.3	119.2	112.4	102.1	93.6	86.8	80.0	74.9	71.5
80°	98.7	100.4	95.3	91.9	83.4	78.3	71.5	64.7	59.6	56.2	54.5
82.5°	74.9	73.2	69.8	68.1	61.3	56.2	49.4	46.0	42.6	39.2	39.2
85°	49.4	47.7	46.0	44.3	39.2	34.0	32.3	28.9	25.5	23.8	23.8
87.5°	25.5	25.5	23.8	22.1	20.4	17.0	15.3	11.9	10.2	10.2	10.2
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°	1590.0	1590.0	1590.0
1°	1583.2	1576.4	1574.7
2°	1562.8	1552.6	1554.3
3°	1544.1	1532.1	1520.2
4°	1520.2	1501.5	1501.5
5°	1499.8	1481.1	1476.0
6°	1481.1	1450.4	1443.6
7°	1464.0	1426.6	1414.7
8°	1435.1	1397.6	1385.7
9°	1414.7	1373.8	1361.9
10°	1387.4	1346.6	1324.4
11°	1365.3	1319.3	1302.3
12°	1341.5	1285.3	1268.3
13°	1314.2	1256.4	1246.1
14°	1288.7	1232.5	1213.8
15°	1261.5	1203.6	1181.4
16°	1232.5	1174.6	1154.2
17°	1208.7	1144.0	1128.7
18°	1184.9	1116.8	1092.9
19°	1155.9	1091.2	1064.0
20°	1130.4	1058.9	1036.7
21°	1103.1	1035.0	1011.2
22.5°	1065.7	989.1	966.9
23°	1053.8	975.5	951.6
24°	1026.5	948.2	927.8
25°	999.3	927.8	905.7
26°	975.5	897.2	876.7
27°	951.6	873.3	851.2
28°	926.1	847.8	830.8
29°	900.6	820.5	803.5
30°	873.3	801.8	772.9
32.5°	805.2	740.5	716.7
35°	738.8	682.7	662.2
37.5°	674.1	628.2	609.4
40°	618.0	577.1	558.4
42.5°	560.1	522.6	503.9
45°	500.5	469.9	451.1
47.5°	446.0	420.5	400.1
50°	396.7	371.1	360.9
52.5°	349.0	332.0	337.1
55°	304.7	304.7	303.0
57.5°	262.2	274.1	275.8
60°	229.8	245.1	248.5



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	158.3	166.8	170.2
70°	136.2	143.0	144.7
72.5°	115.8	120.9	124.3
75°	93.6	100.4	100.4
77.5°	76.6	80.0	81.7
80°	57.9	59.6	61.3
82.5°	40.9	42.6	44.3
85°	23.8	25.5	27.2
87.5°	10.2	10.2	10.2
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

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Scaled Data Report





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

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Scaled Data Report





62.5°	343.9	347.3	342.2	333.7	325.2	309.8	292.8	269.0	252.0	238.3	214.5
65°	301.3	303.0	299.6	291.1	282.6	267.3	250.2	229.8	216.2	202.6	182.2

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Scaled Data Report



62.5°	206.0	217.9	219.6
65°	180.5	190.7	192.4

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Scaled Data Report



(END OF REPORT)