

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: P838546

Luminaire Tested: HCSQ635D010-HM63040835-61SQLWW

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838546  
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-HM63040835-61SQLWW  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

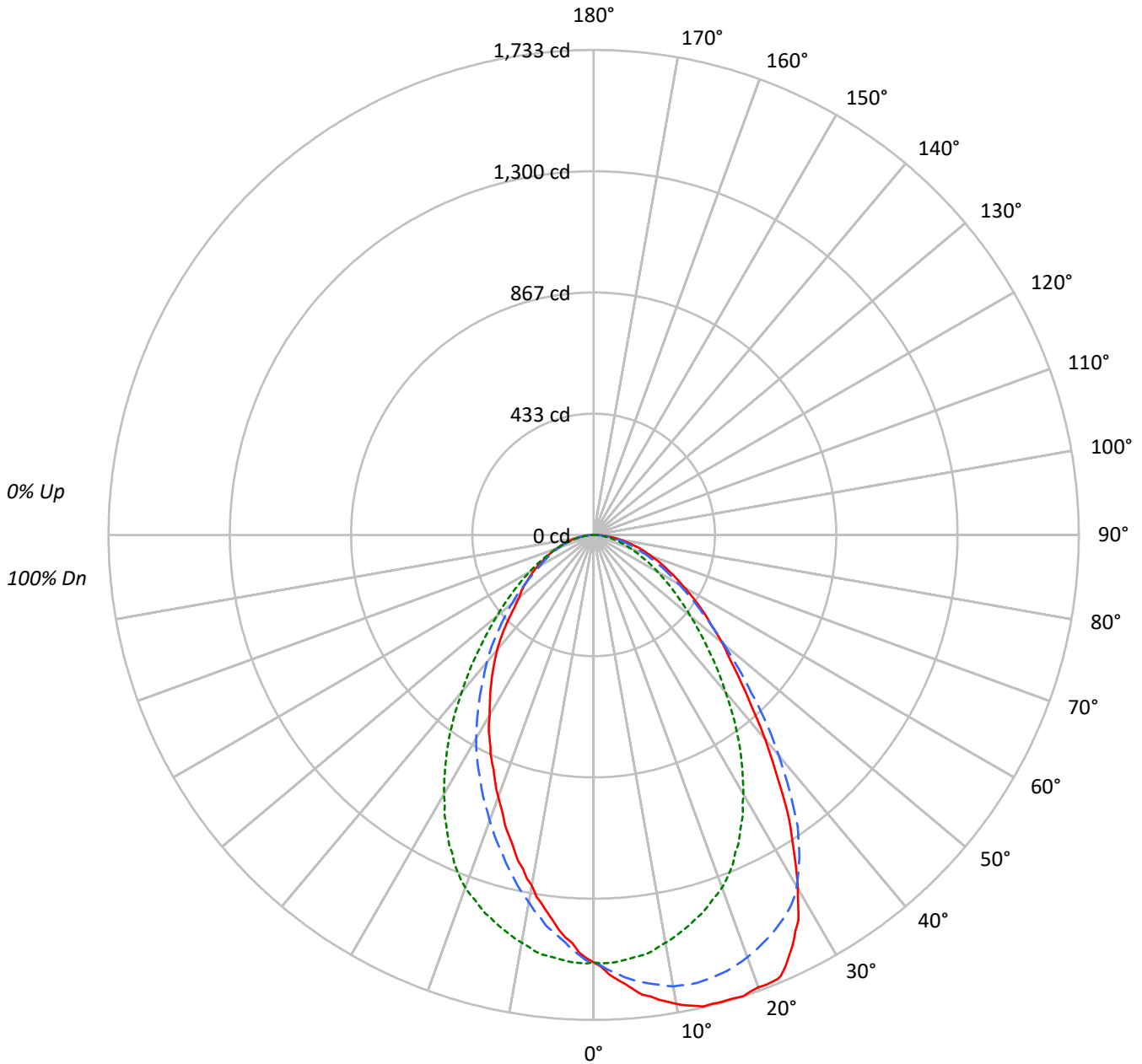
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2887.9 lumens  
Efficiency: N/A  
Efficacy: 84.9 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<sub>in</sub>): 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									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°	147948	147948	147948	147948	147948
5°	158530	155267	147716	140082	137855
10°	167435	161169	145568	131088	125136
15°	173497	164154	142175	121515	113812
20°	177330	165536	138227	111928	102660
25°	176871	165514	130556	102593	92984
30°	163151	162329	119625	93830	83035
35°	142708	150153	107123	83919	75227
40°	120556	129965	92633	75055	67822
45°	101930	108869	79297	65857	59363
50°	90442	91301	68016	57421	52237
55°	80919	78157	58827	49436	49149
60°	72230	68113	51325	42761	46248
65°	66338	60527	44608	39725	42361
70°	61124	54185	39371	37048	39371
75°	57530	48359	34286	33649	36120
80°	52887	43320	30126	31018	32859
85°	52686	39070	25454	25454	29122

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 45°  
 Luminance: 109766 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.0	5.0
10°-20°	401.5	13.9
20°-30°	572.7	19.8
30°-40°	590.2	20.4
40°-50°	475.1	16.5
50°-60°	335.9	11.6
60°-70°	217.7	7.5
70°-80°	117.0	4.1
80°-90°	33.8	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°	1118.2	38.7
0°-40°	1708.4	59.2
0°-60°	2519.4	87.2
0°-90°	2887.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2887.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1527	1527	1527	1527	1527	
5°	1630	1597	1519	1440	1418	158
15°	1730	1637	1418	1212	1135	489
25°	1655	1548	1221	960	870	753
35°	1207	1270	906	710	636	749
45°	744	795	579	481	433	581
55°	479	463	348	293	291	428
65°	289	264	195	173	185	289
75°	154	129	92	90	96	163
85°	47	35	23	23	26	52
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°	1527.2	1527.2	1527.2	1527.2	1527.2	1527.2	1527.2	1527.2	1527.2	1527.2	1527.2
1°	1543.5	1550.1	1545.2	1545.2	1540.3	1538.6	1541.9	1537.0	1535.4	1532.1	1525.5
2°	1571.3	1566.4	1564.8	1566.4	1556.6	1556.6	1551.7	1541.9	1537.0	1530.5	1512.5
3°	1590.9	1587.7	1584.4	1582.8	1573.0	1564.8	1558.2	1546.8	1537.0	1528.8	1502.7
4°	1608.9	1608.9	1605.7	1599.1	1589.3	1579.5	1566.4	1553.3	1538.6	1523.9	1489.6
5°	1630.2	1631.8	1617.1	1615.5	1604.0	1589.3	1574.6	1556.6	1538.6	1519.0	1481.4
6°	1651.4	1643.3	1640.0	1628.6	1612.2	1599.1	1581.1	1561.5	1537.0	1514.1	1463.4
7°	1661.3	1659.6	1651.4	1640.0	1625.3	1604.0	1586.0	1559.9	1533.7	1510.8	1450.3
8°	1677.6	1677.6	1667.8	1653.1	1631.8	1612.2	1589.3	1558.2	1532.1	1502.7	1432.3
9°	1689.1	1689.1	1676.0	1662.9	1643.3	1617.1	1590.9	1556.6	1523.9	1489.6	1416.0
10°	1702.1	1698.9	1689.1	1669.4	1653.1	1623.7	1590.9	1555.0	1519.0	1479.8	1399.6
11°	1711.9	1707.0	1695.6	1680.9	1654.7	1625.3	1590.9	1555.0	1512.5	1470.0	1383.3
12°	1720.1	1716.9	1702.1	1684.1	1658.0	1628.6	1589.3	1548.4	1501.0	1456.9	1362.0
13°	1729.9	1720.1	1705.4	1689.1	1659.6	1625.3	1582.8	1538.6	1492.8	1445.4	1344.0
14°	1728.3	1726.7	1713.6	1690.7	1658.0	1622.0	1581.1	1528.8	1481.4	1432.3	1322.8
15°	1729.9	1728.3	1713.6	1692.3	1656.4	1617.1	1576.2	1522.3	1470.0	1417.6	1301.5
16°	1729.9	1729.9	1710.3	1689.1	1654.7	1612.2	1566.4	1515.7	1458.5	1406.2	1283.6
17°	1729.9	1729.9	1713.6	1684.1	1649.8	1608.9	1556.6	1502.7	1445.4	1389.8	1257.4
18°	1733.2	1728.3	1707.0	1682.5	1643.3	1600.8	1550.1	1492.8	1434.0	1371.8	1239.4
19°	1725.0	1721.8	1703.8	1672.7	1638.4	1590.9	1540.3	1481.4	1422.5	1357.1	1218.1
20°	1720.1	1725.0	1700.5	1667.8	1628.6	1582.8	1530.5	1470.0	1406.2	1340.8	1196.9
21°	1721.8	1720.1	1694.0	1659.6	1622.0	1571.3	1519.0	1456.9	1388.2	1321.2	1177.3
22.5°	1718.5	1713.6	1685.8	1648.2	1602.4	1556.6	1499.4	1435.6	1362.0	1286.8	1139.7
23°	1711.9	1707.0	1685.8	1644.9	1595.9	1550.1	1489.6	1422.5	1352.2	1275.4	1129.9
24°	1685.8	1684.1	1674.3	1633.5	1587.7	1537.0	1478.1	1401.3	1322.8	1242.7	1105.3
25°	1654.7	1658.0	1653.1	1626.9	1574.6	1522.3	1460.1	1375.1	1295.0	1221.4	1075.9
26°	1625.3	1625.3	1622.0	1612.2	1561.5	1505.9	1434.0	1344.0	1267.2	1190.4	1044.8
27°	1587.7	1594.2	1587.7	1582.8	1548.4	1487.9	1406.2	1322.8	1236.1	1160.9	1018.7
28°	1558.2	1558.2	1555.0	1546.8	1535.4	1466.7	1376.8	1291.7	1206.7	1134.8	989.2
29°	1505.9	1515.7	1517.4	1519.0	1517.4	1438.9	1349.0	1257.4	1175.6	1097.1	961.4
30°	1458.5	1468.3	1474.9	1486.3	1487.9	1414.4	1316.3	1229.6	1146.2	1069.4	936.9
32.5°	1329.3	1347.3	1365.3	1384.9	1394.7	1340.8	1236.1	1141.3	1056.3	987.6	861.7
35°	1206.7	1211.6	1231.2	1277.0	1286.8	1252.5	1141.3	1051.4	971.2	905.8	791.4
37.5°	1067.7	1077.5	1105.3	1157.6	1160.9	1133.1	1056.3	951.6	876.4	819.2	719.4
40°	953.3	958.2	977.8	1021.9	1036.7	1018.7	951.6	856.8	788.1	732.5	650.8
42.5°	838.8	845.3	869.9	904.2	925.5	904.2	845.3	763.6	696.6	655.7	585.4
45°	744.0	752.1	775.0	794.7	801.2	788.1	735.8	668.8	621.3	578.8	524.9
47.5°	662.2	670.4	686.7	694.9	703.1	690.0	649.1	593.5	546.1	511.8	462.7
50°	600.1	598.4	609.9	613.2	613.2	598.4	564.1	518.3	479.1	451.3	410.4
52.5°	529.8	533.0	541.2	537.9	536.3	523.2	493.8	454.6	421.9	397.3	359.7
55°	479.1	474.2	479.1	475.8	469.3	456.2	430.0	397.3	369.5	348.3	313.9
57.5°	423.5	423.5	425.1	418.6	410.4	395.7	372.8	346.6	322.1	304.1	276.3
60°	372.8	376.1	374.4	367.9	359.7	343.4	325.4	299.2	278.0	264.9	238.7



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	253.4	253.4	248.5	243.6	232.2	217.5	204.4	188.0	176.6	165.1	148.8
70°	215.8	219.1	212.6	204.4	196.2	186.4	171.7	158.6	147.2	139.0	125.9
72.5°	186.4	184.8	179.9	171.7	165.1	153.7	140.6	130.8	121.0	114.5	104.6
75°	153.7	153.7	148.8	142.3	134.1	124.3	114.5	106.3	98.1	91.6	86.7
77.5°	122.6	124.3	119.4	114.5	107.9	98.1	89.9	83.4	76.8	71.9	68.7
80°	94.8	96.5	91.6	88.3	80.1	75.2	68.7	62.1	57.2	54.0	52.3
82.5°	71.9	70.3	67.0	65.4	58.9	54.0	47.4	44.1	40.9	37.6	37.6
85°	47.4	45.8	44.1	42.5	37.6	32.7	31.1	27.8	24.5	22.9	22.9
87.5°	24.5	24.5	22.9	21.3	19.6	16.4	14.7	11.4	9.8	9.8	9.8
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°	1527.2	1527.2	1527.2
1°	1520.6	1514.1	1512.5
2°	1501.0	1491.2	1492.8
3°	1483.0	1471.6	1460.1
4°	1460.1	1442.2	1442.2
5°	1440.5	1422.5	1417.6
6°	1422.5	1393.1	1386.6
7°	1406.2	1370.2	1358.8
8°	1378.4	1342.4	1331.0
9°	1358.8	1319.5	1308.1
10°	1332.6	1293.4	1272.1
11°	1311.3	1267.2	1250.8
12°	1288.5	1234.5	1218.1
13°	1262.3	1206.7	1196.9
14°	1237.8	1183.8	1165.8
15°	1211.6	1156.0	1134.8
16°	1183.8	1128.2	1108.6
17°	1160.9	1098.8	1084.1
18°	1138.0	1072.6	1049.7
19°	1110.2	1048.1	1021.9
20°	1085.7	1017.0	995.8
21°	1059.5	994.1	971.2
22.5°	1023.6	950.0	928.7
23°	1012.1	936.9	914.0
24°	986.0	910.7	891.1
25°	959.8	891.1	869.9
26°	936.9	861.7	842.1
27°	914.0	838.8	817.5
28°	889.5	814.3	797.9
29°	865.0	788.1	771.8
30°	838.8	770.1	742.3
32.5°	773.4	711.3	688.4
35°	709.6	655.7	636.1
37.5°	647.5	603.4	585.4
40°	593.5	554.3	536.3
42.5°	537.9	502.0	484.0
45°	480.7	451.3	433.3
47.5°	428.4	403.9	384.2
50°	381.0	356.5	346.6
52.5°	335.2	318.8	323.7
55°	292.7	292.7	291.0
57.5°	251.8	263.3	264.9
60°	220.7	235.5	238.7





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	152.1	160.2	163.5
70°	130.8	137.3	139.0
72.5°	111.2	116.1	119.4
75°	89.9	96.5	96.5
77.5°	73.6	76.8	78.5
80°	55.6	57.2	58.9
82.5°	39.2	40.9	42.5
85°	22.9	24.5	26.2
87.5°	9.8	9.8	9.8
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



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°	330.3	333.6	328.7	320.5	312.3	297.6	281.2	258.3	242.0	228.9	206.0
65°	289.4	291.0	287.8	279.6	271.4	256.7	240.4	220.7	207.7	194.6	175.0

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Scaled Data Report





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Scaled Data Report



62.5°	197.8	209.3	210.9
65°	173.3	183.1	184.8

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Scaled Data Report



(END OF REPORT)