

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: P838571

Luminaire Tested: HCSQ635D010-HM63040940-61SQLWW

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-2019
Report Number: P838571
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-HM63040940-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

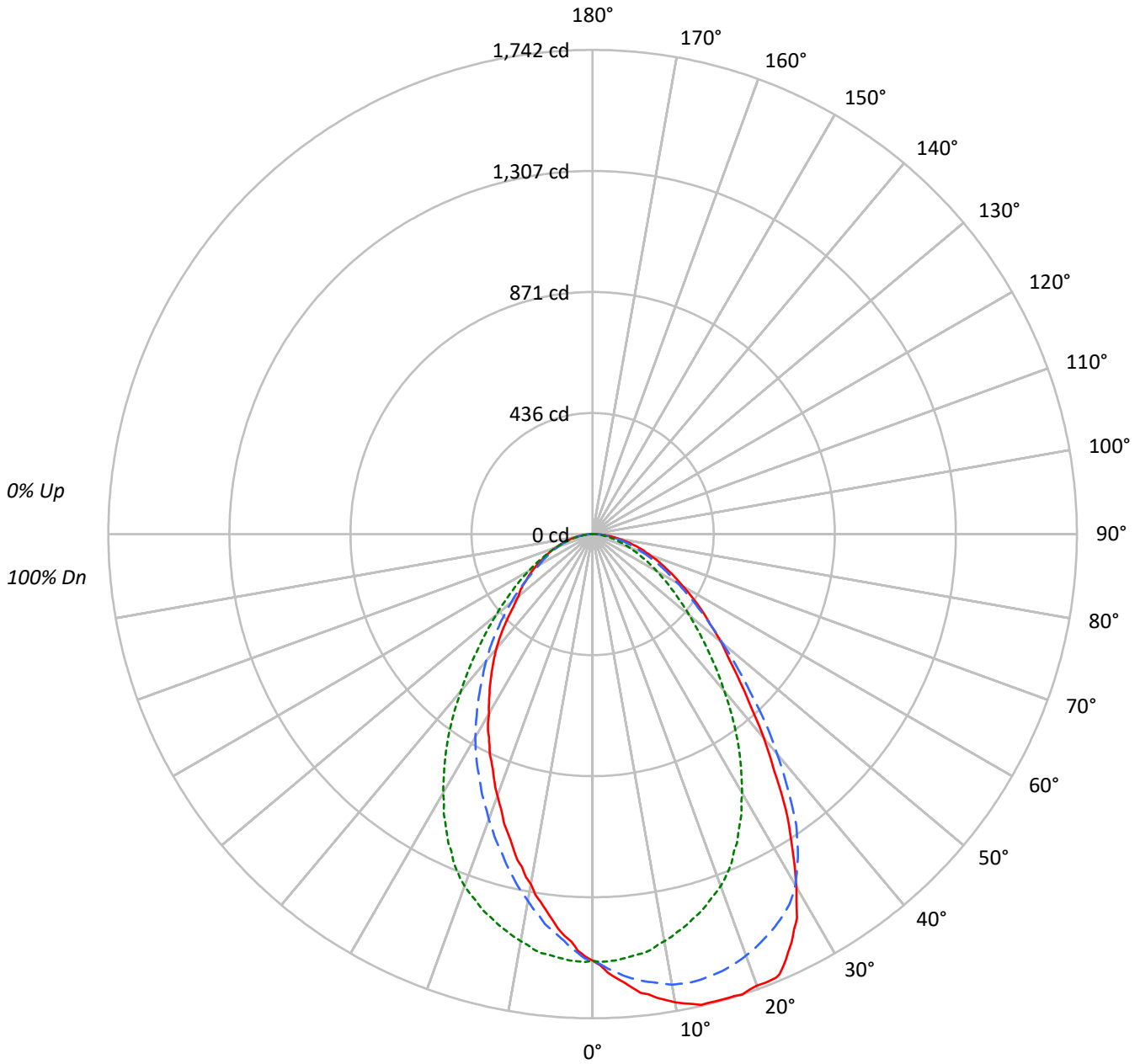
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2902.2 lumens
Efficiency: N/A
Efficacy: 85.4 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

TEST NUMBER: P838571
CATALOG NUMBER: HCSQ635D010-HM63040940-61SQLWW

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°	148684	148684	148684	148684	148684
5°	159317	156040	148455	140782	138546
10°	168272	161966	146286	131737	125756
15°	174359	164967	142887	122117	114374
20°	178216	166356	138907	112484	103165
25°	177748	166332	131208	103106	93443
30°	163967	163134	120218	94300	83449
35°	143418	150898	107655	84345	75594
40°	121150	130604	93101	75435	68163
45°	102437	109410	79694	66186	59665
50°	90894	91753	68348	57707	52508
55°	81324	78546	59114	49673	49402
60°	72598	68452	51576	42974	46481
65°	66682	60837	44814	39931	42567
70°	61436	54454	39569	37247	39569
75°	57829	48584	34435	33837	36307
80°	53166	43543	30237	31186	33027
85°	53020	39292	25565	25565	29233

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 110314 cd/sqm



TEST NUMBER: P838571

CATALOG NUMBER: HCSQ635D010-HM63040940-61SQLWW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.8	5.0
10°-20°	403.5	13.9
20°-30°	575.5	19.8
30°-40°	593.1	20.4
40°-50°	477.5	16.5
50°-60°	337.6	11.6
60°-70°	218.8	7.5
70°-80°	117.5	4.1
80°-90°	34.0	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°	1123.8	38.7
0°-40°	1716.9	59.2
0°-60°	2531.9	87.2
0°-90°	2902.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2902.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1535	1535	1535	1535	1535	
5°	1638	1605	1527	1448	1425	159
15°	1738	1645	1425	1218	1140	492
25°	1663	1556	1228	965	874	757
35°	1213	1276	910	713	639	753
45°	748	799	582	483	436	584
55°	482	465	350	294	292	431
65°	291	265	196	174	186	290
75°	154	130	92	90	97	164
85°	48	35	23	23	26	52
90°	0	0	0	0	0	



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CATALOG NUMBER: HCSQ635D010-HM63040940-61SQLWW

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	1534.8	1534.8	1534.8	1534.8	1534.8	1534.8	1534.8	1534.8	1534.8	1534.8	1534.8
1°	1551.2	1557.8	1552.8	1552.8	1547.9	1546.3	1549.6	1544.6	1543.0	1539.7	1533.1
2°	1579.1	1574.2	1572.6	1574.2	1564.4	1564.4	1559.4	1549.6	1544.6	1538.1	1520.0
3°	1598.9	1595.6	1592.3	1590.6	1580.8	1572.6	1566.0	1554.5	1544.6	1536.4	1510.1
4°	1616.9	1616.9	1613.6	1607.1	1597.2	1587.4	1574.2	1561.1	1546.3	1531.5	1497.0
5°	1638.3	1639.9	1625.1	1623.5	1612.0	1597.2	1582.4	1564.4	1546.3	1526.6	1488.8
6°	1659.7	1651.4	1648.2	1636.7	1620.2	1607.1	1589.0	1569.3	1544.6	1521.6	1470.7
7°	1669.5	1667.9	1659.7	1648.2	1633.4	1612.0	1593.9	1567.6	1541.3	1518.3	1457.5
8°	1685.9	1685.9	1676.1	1661.3	1639.9	1620.2	1597.2	1566.0	1539.7	1510.1	1439.5
9°	1697.5	1697.5	1684.3	1671.2	1651.4	1625.1	1598.9	1564.4	1531.5	1497.0	1423.0
10°	1710.6	1707.3	1697.5	1677.7	1661.3	1631.7	1598.9	1562.7	1526.6	1487.1	1406.6
11°	1720.5	1715.5	1704.0	1689.2	1662.9	1633.4	1598.9	1562.7	1520.0	1477.3	1390.2
12°	1728.7	1725.4	1710.6	1692.5	1666.2	1636.7	1597.2	1556.1	1508.5	1464.1	1368.8
13°	1738.5	1728.7	1713.9	1697.5	1667.9	1633.4	1590.6	1546.3	1500.3	1452.6	1350.7
14°	1736.9	1735.2	1722.1	1699.1	1666.2	1630.1	1589.0	1536.4	1488.8	1439.5	1329.4
15°	1738.5	1736.9	1722.1	1700.7	1664.6	1625.1	1584.1	1529.8	1477.3	1424.7	1308.0
16°	1738.5	1738.5	1718.8	1697.5	1662.9	1620.2	1574.2	1523.3	1465.8	1413.2	1289.9
17°	1738.5	1738.5	1722.1	1692.5	1658.0	1616.9	1564.4	1510.1	1452.6	1396.7	1263.6
18°	1741.8	1736.9	1715.5	1690.9	1651.4	1608.7	1557.8	1500.3	1441.1	1378.7	1245.6
19°	1733.6	1730.3	1712.2	1681.0	1646.5	1598.9	1547.9	1488.8	1429.6	1363.9	1224.2
20°	1728.7	1733.6	1709.0	1676.1	1636.7	1590.6	1538.1	1477.3	1413.2	1347.4	1202.8
21°	1730.3	1728.7	1702.4	1667.9	1630.1	1579.1	1526.6	1464.1	1395.1	1327.7	1183.1
22.5°	1727.0	1722.1	1694.2	1656.4	1610.4	1564.4	1506.8	1442.8	1368.8	1293.2	1145.3
23°	1720.5	1715.5	1694.2	1653.1	1603.8	1557.8	1497.0	1429.6	1358.9	1281.7	1135.5
24°	1694.2	1692.5	1682.7	1641.6	1595.6	1544.6	1485.5	1408.2	1329.4	1248.9	1110.8
25°	1662.9	1666.2	1661.3	1635.0	1582.4	1529.8	1467.4	1382.0	1301.4	1227.5	1081.2
26°	1633.4	1633.4	1630.1	1620.2	1569.3	1513.4	1441.1	1350.7	1273.5	1196.3	1050.0
27°	1595.6	1602.1	1595.6	1590.6	1556.1	1495.3	1413.2	1329.4	1242.3	1166.7	1023.7
28°	1566.0	1566.0	1562.7	1554.5	1543.0	1474.0	1383.6	1298.1	1212.7	1140.4	994.2
29°	1513.4	1523.3	1524.9	1526.6	1524.9	1446.0	1355.7	1263.6	1181.5	1102.6	966.2
30°	1465.8	1475.6	1482.2	1493.7	1495.3	1421.4	1322.8	1235.7	1151.9	1074.7	941.6
32.5°	1335.9	1354.0	1372.1	1391.8	1401.7	1347.4	1242.3	1147.0	1061.5	992.5	866.0
35°	1212.7	1217.6	1237.3	1283.4	1293.2	1258.7	1147.0	1056.6	976.1	910.3	795.3
37.5°	1073.0	1082.9	1110.8	1163.4	1166.7	1138.8	1061.5	956.4	880.8	823.3	723.0
40°	958.0	962.9	982.6	1027.0	1041.8	1023.7	956.4	861.1	792.0	736.2	654.0
42.5°	843.0	849.5	874.2	908.7	930.1	908.7	849.5	767.4	700.0	658.9	588.3
45°	747.7	755.9	778.9	798.6	805.2	792.0	739.5	672.1	624.4	581.7	527.5
47.5°	665.5	673.7	690.2	698.4	706.6	693.4	652.4	596.5	548.8	514.3	465.0
50°	603.1	601.4	612.9	616.2	616.2	601.4	566.9	520.9	481.5	453.5	412.4
52.5°	532.4	535.7	543.9	540.6	539.0	525.8	496.3	456.8	424.0	399.3	361.5
55°	481.5	476.5	481.5	478.2	471.6	458.5	432.2	399.3	371.4	350.0	315.5
57.5°	425.6	425.6	427.2	420.7	412.4	397.7	374.7	348.4	323.7	305.6	277.7
60°	374.7	377.9	376.3	369.7	361.5	345.1	327.0	300.7	279.3	266.2	239.9



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	254.7	254.7	249.8	244.8	233.3	218.5	205.4	189.0	177.5	166.0	149.5
70°	216.9	220.2	213.6	205.4	197.2	187.3	172.5	159.4	147.9	139.7	126.5
72.5°	187.3	185.7	180.8	172.5	166.0	154.5	141.3	131.5	121.6	115.0	105.2
75°	154.5	154.5	149.5	143.0	134.7	124.9	115.0	106.8	98.6	92.0	87.1
77.5°	123.2	124.9	120.0	115.0	108.5	98.6	90.4	83.8	77.2	72.3	69.0
80°	95.3	97.0	92.0	88.7	80.5	75.6	69.0	62.4	57.5	54.2	52.6
82.5°	72.3	70.7	67.4	65.7	59.2	54.2	47.7	44.4	41.1	37.8	37.8
85°	47.7	46.0	44.4	42.7	37.8	32.9	31.2	27.9	24.6	23.0	23.0
87.5°	24.6	24.6	23.0	21.4	19.7	16.4	14.8	11.5	9.9	9.9	9.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P838571

CATALOG NUMBER: HCSQ635D010-HM63040940-61SQLWW

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	1534.8	1534.8	1534.8
1°	1528.2	1521.6	1520.0
2°	1508.5	1498.6	1500.3
3°	1490.4	1478.9	1467.4
4°	1467.4	1449.3	1449.3
5°	1447.7	1429.6	1424.7
6°	1429.6	1400.0	1393.5
7°	1413.2	1377.0	1365.5
8°	1385.2	1349.1	1337.6
9°	1365.5	1326.1	1314.6
10°	1339.2	1299.8	1278.4
11°	1317.9	1273.5	1257.1
12°	1294.9	1240.6	1224.2
13°	1268.6	1212.7	1202.8
14°	1243.9	1189.7	1171.6
15°	1217.6	1161.8	1140.4
16°	1189.7	1133.8	1114.1
17°	1166.7	1104.2	1089.5
18°	1143.7	1078.0	1055.0
19°	1115.7	1053.3	1027.0
20°	1091.1	1022.1	1000.7
21°	1064.8	999.1	976.1
22.5°	1028.7	954.7	933.4
23°	1017.2	941.6	918.6
24°	990.9	915.3	895.6
25°	964.6	895.6	874.2
26°	941.6	866.0	846.3
27°	918.6	843.0	821.6
28°	893.9	818.3	801.9
29°	869.3	792.0	775.6
30°	843.0	774.0	746.0
32.5°	777.2	714.8	691.8
35°	713.2	658.9	639.2
37.5°	650.7	606.4	588.3
40°	596.5	557.1	539.0
42.5°	540.6	504.5	486.4
45°	483.1	453.5	435.5
47.5°	430.5	405.9	386.2
50°	382.9	358.2	348.4
52.5°	336.9	320.4	325.4
55°	294.1	294.1	292.5
57.5°	253.1	264.6	266.2
60°	221.8	236.6	239.9



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	152.8	161.0	164.3
70°	131.5	138.0	139.7
72.5°	111.7	116.7	120.0
75°	90.4	97.0	97.0
77.5°	73.9	77.2	78.9
80°	55.9	57.5	59.2
82.5°	39.4	41.1	42.7
85°	23.0	24.6	26.3
87.5°	9.9	9.9	9.9
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°	331.9	335.2	330.3	322.1	313.9	299.1	282.6	259.6	243.2	230.1	207.0
65°	290.9	292.5	289.2	281.0	272.8	258.0	241.6	221.8	208.7	195.5	175.8

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62.5°	198.8	210.3	212.0
65°	174.2	184.0	185.7

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Scaled Data Report



(END OF REPORT)