

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: P838561

Luminaire Tested: HCSQ635D010-HM63040930-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838561
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-HM63040930-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

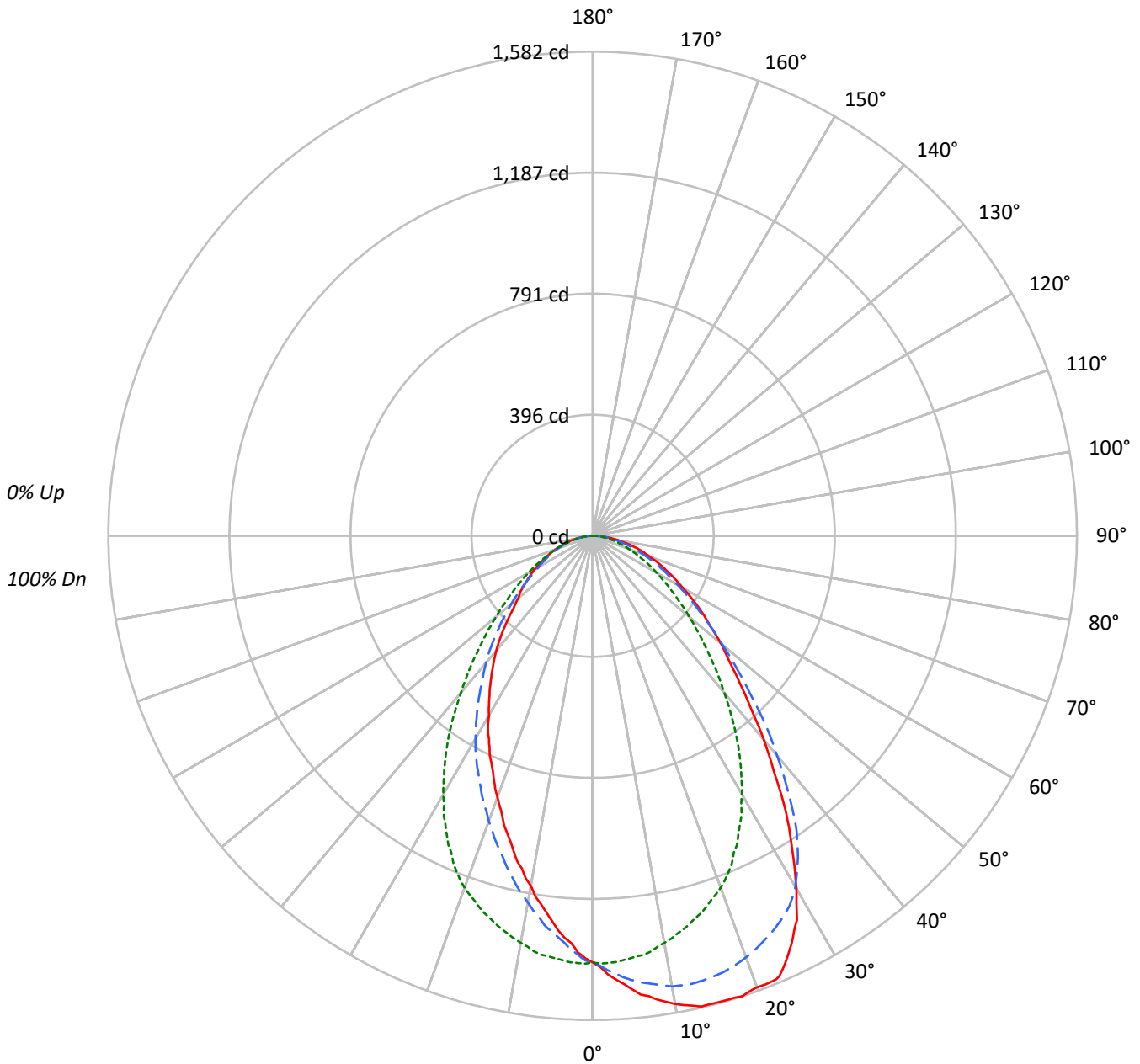
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2635.6 lumens
Efficiency: N/A
Efficacy: 77.5 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: P838561
CATALOG NUMBER: HCSQ635D010-HM63040930-61SQLWW

Luminous Intensity Polar Plot





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CATALOG NUMBER: HCSQ635D010-HM63040930-61SQLWW

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								
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°	135025	135025	135025	135025	135025
5°	144682	141706	134811	127849	125816
10°	152808	147088	132849	119637	114207
15°	158342	149812	129759	110904	103863
20°	161845	151072	126155	102155	93691
25°	161426	151052	119151	93636	84860
30°	148900	148150	109166	85630	75787
35°	130243	137037	97768	76587	68652
40°	110022	118609	84540	68504	61903
45°	93025	99361	72378	60103	54171
50°	82545	83328	62078	52402	47685
55°	73842	71325	53692	45112	44859
60°	65914	62165	46830	39041	42218
65°	60539	55244	40711	36264	38648
70°	55799	49455	35915	33819	35915
75°	52514	44130	31291	30730	32938
80°	48313	39526	27448	28285	29958
85°	48129	35624	23231	23231	26565

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 100176 cd/sqm



TEST NUMBER: P838561

CATALOG NUMBER: HCSQ635D010-HM63040930-61SQLWW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.5	5.0
10°-20°	366.4	13.9
20°-30°	522.6	19.8
30°-40°	538.6	20.4
40°-50°	433.6	16.5
50°-60°	306.6	11.6
60°-70°	198.7	7.5
70°-80°	106.7	4.1
80°-90°	30.8	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°	1020.5	38.7
0°-40°	1559.1	59.2
0°-60°	2299.3	87.2
0°-90°	2635.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2635.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1394	1394	1394	1394	1394	
5°	1488	1457	1386	1315	1294	144
15°	1579	1494	1294	1106	1036	446
25°	1510	1413	1115	876	794	688
35°	1101	1159	827	648	580	684
45°	679	725	528	439	395	531
55°	437	422	318	267	266	391
65°	264	241	178	158	169	263
75°	140	118	84	82	88	149
85°	43	32	21	21	24	48
90°	0	0	0	0	0	



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CATALOG NUMBER: HCSQ635D010-HM63040930-61SQLWW

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	1393.8	1393.8	1393.8	1393.8	1393.8	1393.8	1393.8	1393.8	1393.8	1393.8	1393.8
1°	1408.7	1414.7	1410.2	1410.2	1405.7	1404.2	1407.2	1402.7	1401.2	1398.2	1392.3
2°	1434.1	1429.6	1428.1	1429.6	1420.6	1420.6	1416.2	1407.2	1402.7	1396.8	1380.3
3°	1452.0	1449.0	1446.0	1444.5	1435.6	1428.1	1422.1	1411.7	1402.7	1395.3	1371.4
4°	1468.4	1468.4	1465.4	1459.4	1450.5	1441.5	1429.6	1417.6	1404.2	1390.8	1359.4
5°	1487.8	1489.3	1475.8	1474.4	1463.9	1450.5	1437.0	1420.6	1404.2	1386.3	1352.0
6°	1507.2	1499.7	1496.7	1486.3	1471.4	1459.4	1443.0	1425.1	1402.7	1381.8	1335.6
7°	1516.1	1514.6	1507.2	1496.7	1483.3	1463.9	1447.5	1423.6	1399.7	1378.8	1323.6
8°	1531.1	1531.1	1522.1	1508.7	1489.3	1471.4	1450.5	1422.1	1398.2	1371.4	1307.2
9°	1541.5	1541.5	1529.6	1517.6	1499.7	1475.8	1452.0	1420.6	1390.8	1359.4	1292.3
10°	1553.4	1550.5	1541.5	1523.6	1508.7	1481.8	1452.0	1419.1	1386.3	1350.5	1277.4
11°	1562.4	1557.9	1547.5	1534.0	1510.2	1483.3	1452.0	1419.1	1380.3	1341.5	1262.4
12°	1569.9	1566.9	1553.4	1537.0	1513.1	1486.3	1450.5	1413.2	1369.9	1329.6	1243.1
13°	1578.8	1569.9	1556.4	1541.5	1514.6	1483.3	1444.5	1404.2	1362.4	1319.2	1226.6
14°	1577.3	1575.8	1563.9	1543.0	1513.1	1480.3	1443.0	1395.3	1352.0	1307.2	1207.2
15°	1578.8	1577.3	1563.9	1544.5	1511.7	1475.8	1438.5	1389.3	1341.5	1293.8	1187.8
16°	1578.8	1578.8	1560.9	1541.5	1510.2	1471.4	1429.6	1383.3	1331.1	1283.3	1171.4
17°	1578.8	1578.8	1563.9	1537.0	1505.7	1468.4	1420.6	1371.4	1319.2	1268.4	1147.5
18°	1581.8	1577.3	1557.9	1535.5	1499.7	1460.9	1414.7	1362.4	1308.7	1252.0	1131.1
19°	1574.3	1571.3	1554.9	1526.6	1495.2	1452.0	1405.7	1352.0	1298.3	1238.6	1111.7
20°	1569.9	1574.3	1551.9	1522.1	1486.3	1444.5	1396.8	1341.5	1283.3	1223.7	1092.3
21°	1571.3	1569.9	1546.0	1514.6	1480.3	1434.1	1386.3	1329.6	1266.9	1205.7	1074.4
22.5°	1568.4	1563.9	1538.5	1504.2	1462.4	1420.6	1368.4	1310.2	1243.1	1174.4	1040.1
23°	1562.4	1557.9	1538.5	1501.2	1456.4	1414.7	1359.4	1298.3	1234.1	1164.0	1031.1
24°	1538.5	1537.0	1528.1	1490.8	1449.0	1402.7	1349.0	1278.9	1207.2	1134.1	1008.8
25°	1510.2	1513.1	1508.7	1484.8	1437.0	1389.3	1332.6	1255.0	1181.9	1114.7	981.9
26°	1483.3	1483.3	1480.3	1471.4	1425.1	1374.4	1308.7	1226.6	1156.5	1086.4	953.6
27°	1449.0	1455.0	1449.0	1444.5	1413.2	1358.0	1283.3	1207.2	1128.1	1059.5	929.7
28°	1422.1	1422.1	1419.1	1411.7	1401.2	1338.6	1256.5	1178.9	1101.3	1035.6	902.8
29°	1374.4	1383.3	1384.8	1386.3	1384.8	1313.2	1231.1	1147.5	1072.9	1001.3	877.4
30°	1331.1	1340.0	1346.0	1356.5	1358.0	1290.8	1201.3	1122.2	1046.1	975.9	855.1
32.5°	1213.2	1229.6	1246.0	1263.9	1272.9	1223.7	1128.1	1041.6	964.0	901.3	786.4
35°	1101.3	1105.8	1123.7	1165.5	1174.4	1143.1	1041.6	959.5	886.4	826.7	722.3
37.5°	974.4	983.4	1008.8	1056.5	1059.5	1034.1	964.0	868.5	799.9	747.6	656.6
40°	870.0	874.5	892.4	932.7	946.1	929.7	868.5	781.9	719.3	668.5	593.9
42.5°	765.5	771.5	793.9	825.2	844.6	825.2	771.5	696.9	635.7	598.4	534.2
45°	679.0	686.4	707.3	725.2	731.2	719.3	671.5	610.3	567.1	528.3	479.0
47.5°	604.4	611.8	626.7	634.2	641.7	629.7	592.4	541.7	498.4	467.1	422.3
50°	547.7	546.2	556.6	559.6	559.6	546.2	514.8	473.0	437.2	411.9	374.6
52.5°	483.5	486.5	493.9	491.0	489.5	477.5	450.7	414.8	385.0	362.6	328.3
55°	437.2	432.8	437.2	434.2	428.3	416.3	392.5	362.6	337.3	317.9	286.5
57.5°	386.5	386.5	388.0	382.0	374.6	361.1	340.2	316.4	294.0	277.6	252.2
60°	340.2	343.2	341.7	335.8	328.3	313.4	297.0	273.1	253.7	241.7	217.9



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	231.3	231.3	226.8	222.3	211.9	198.5	186.5	171.6	161.2	150.7	135.8
70°	197.0	200.0	194.0	186.5	179.1	170.1	156.7	144.7	134.3	126.8	114.9
72.5°	170.1	168.6	164.1	156.7	150.7	140.3	128.3	119.4	110.4	104.5	95.5
75°	140.3	140.3	135.8	129.8	122.4	113.4	104.5	97.0	89.5	83.6	79.1
77.5°	111.9	113.4	108.9	104.5	98.5	89.5	82.1	76.1	70.1	65.7	62.7
80°	86.6	88.0	83.6	80.6	73.1	68.6	62.7	56.7	52.2	49.2	47.8
82.5°	65.7	64.2	61.2	59.7	53.7	49.2	43.3	40.3	37.3	34.3	34.3
85°	43.3	41.8	40.3	38.8	34.3	29.8	28.4	25.4	22.4	20.9	20.9
87.5°	22.4	22.4	20.9	19.4	17.9	14.9	13.4	10.4	9.0	9.0	9.0
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°	1393.8	1393.8	1393.8
1°	1387.8	1381.8	1380.3
2°	1369.9	1360.9	1362.4
3°	1353.5	1343.0	1332.6
4°	1332.6	1316.2	1316.2
5°	1314.7	1298.3	1293.8
6°	1298.3	1271.4	1265.4
7°	1283.3	1250.5	1240.1
8°	1258.0	1225.1	1214.7
9°	1240.1	1204.3	1193.8
10°	1216.2	1180.4	1161.0
11°	1196.8	1156.5	1141.6
12°	1175.9	1126.7	1111.7
13°	1152.0	1101.3	1092.3
14°	1129.6	1080.4	1064.0
15°	1105.8	1055.0	1035.6
16°	1080.4	1029.7	1011.8
17°	1059.5	1002.8	989.4
18°	1038.6	978.9	958.0
19°	1013.2	956.5	932.7
20°	990.9	928.2	908.8
21°	967.0	907.3	886.4
22.5°	934.2	867.0	847.6
23°	923.7	855.1	834.2
24°	899.8	831.2	813.3
25°	876.0	813.3	793.9
26°	855.1	786.4	768.5
27°	834.2	765.5	746.1
28°	811.8	743.1	728.2
29°	789.4	719.3	704.3
30°	765.5	702.9	677.5
32.5°	705.8	649.1	628.2
35°	647.6	598.4	580.5
37.5°	590.9	550.6	534.2
40°	541.7	505.9	489.5
42.5°	491.0	458.1	441.7
45°	438.7	411.9	395.4
47.5°	391.0	368.6	350.7
50°	347.7	325.3	316.4
52.5°	305.9	291.0	295.5
55°	267.1	267.1	265.6
57.5°	229.8	240.3	241.7
60°	201.5	214.9	217.9



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	138.8	146.2	149.2
70°	119.4	125.3	126.8
72.5°	101.5	106.0	108.9
75°	82.1	88.0	88.0
77.5°	67.2	70.1	71.6
80°	50.7	52.2	53.7
82.5°	35.8	37.3	38.8
85°	20.9	22.4	23.9
87.5°	9.0	9.0	9.0
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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— 0°-180° - - 45°-225° - - - - 90°-270°

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62.5°	301.4	304.4	299.9	292.5	285.0	271.6	256.7	235.8	220.9	208.9	188.0
65°	264.1	265.6	262.6	255.2	247.7	234.3	219.4	201.5	189.5	177.6	159.7

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Scaled Data Report



62.5°	180.6	191.0	192.5
65°	158.2	167.1	168.6

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Scaled Data Report



(END OF REPORT)