

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: P838556

Luminaire Tested: HCSQ635D010-HM63040927-61SQLWW

Issue Date: 5/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P838556  
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-HM63040927-61SQLWW  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

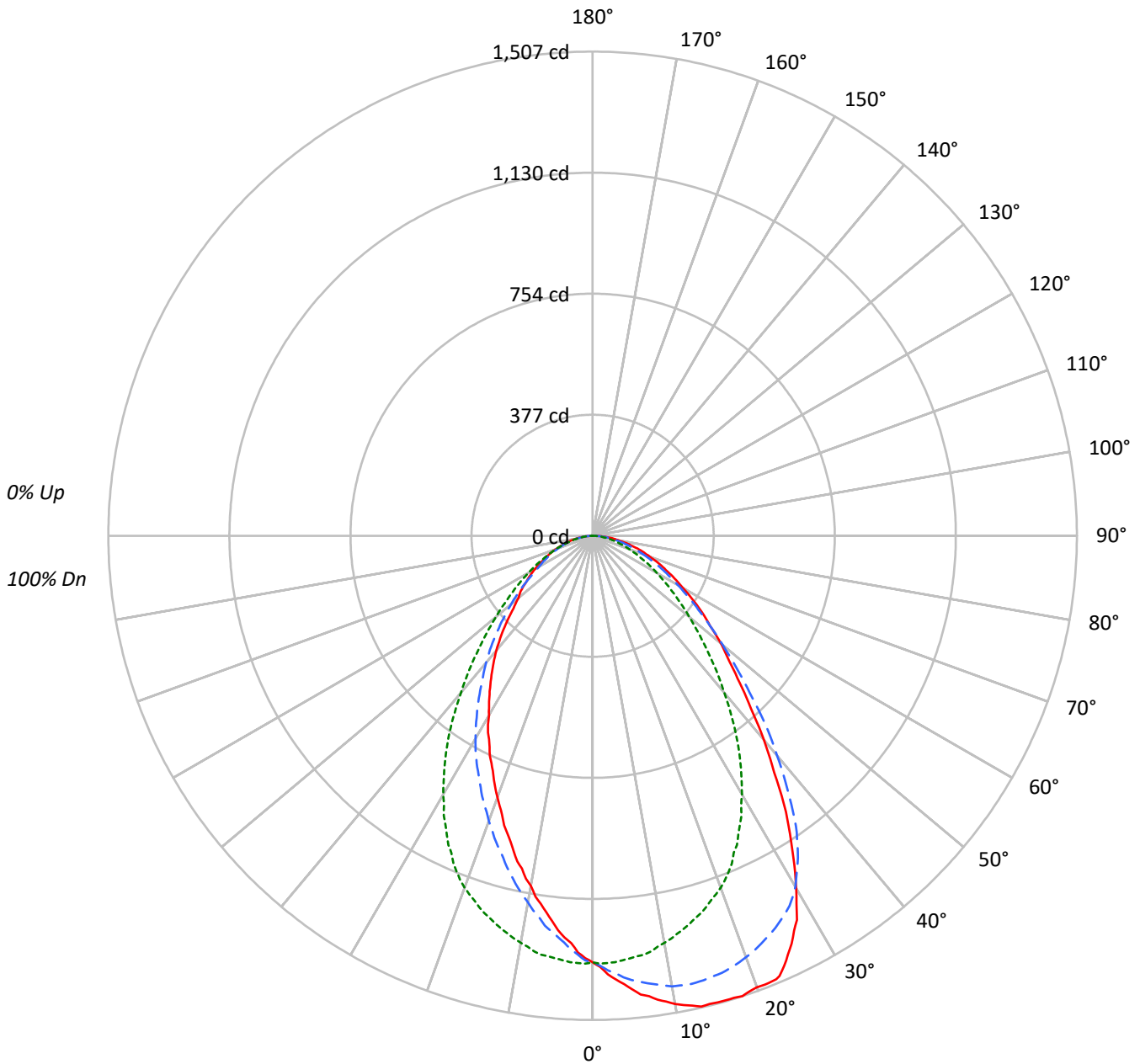
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2510.5 lumens  
Efficiency: N/A  
Efficacy: 73.8 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): 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					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°	128612	128612	128612	128612	128612
5°	137816	134977	128413	121781	119845
10°	145558	140108	126543	113962	108787
15°	150830	142702	123601	105638	98939
20°	154154	143897	120165	97299	89237
25°	153762	143880	113496	89189	80830
30°	141830	141114	103987	81570	72185
35°	124058	130533	93132	72956	65388
40°	104799	112975	80531	65254	58957
45°	88600	94641	68940	57253	51609
50°	78626	79365	59124	49916	45409
55°	70346	67939	51142	42967	42731
60°	62795	59210	44621	37181	40203
65°	57673	52630	38762	34544	36814
70°	53137	47104	34216	32205	34216
75°	50006	42034	29794	29270	31404
80°	45970	37657	26165	26946	28564
85°	45795	33957	22119	22119	25232

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 40°  
 Vertical Angle: 45°  
 Luminance: 95422 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.2	5.0
10°-20°	349.0	13.9
20°-30°	497.8	19.8
30°-40°	513.1	20.4
40°-50°	413.0	16.5
50°-60°	292.0	11.6
60°-70°	189.3	7.5
70°-80°	101.7	4.1
80°-90°	29.4	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°	972.1	38.7
0°-40°	1485.1	59.2
0°-60°	2190.2	87.2
0°-90°	2510.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2510.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1328	1328	1328	1328	1328	
5°	1417	1388	1320	1252	1232	137
15°	1504	1423	1232	1053	986	425
25°	1438	1346	1062	834	756	655
35°	1049	1104	788	617	553	651
45°	647	691	503	418	377	505
55°	416	402	303	254	253	372
65°	252	230	169	151	161	251
75°	134	112	80	78	84	142
85°	41	31	20	20	23	45
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°	1327.6	1327.6	1327.6	1327.6	1327.6	1327.6	1327.6	1327.6	1327.6	1327.6	1327.6
1°	1341.8	1347.5	1343.2	1343.2	1339.0	1337.6	1340.4	1336.1	1334.7	1331.9	1326.2
2°	1366.0	1361.7	1360.3	1361.7	1353.2	1353.2	1348.9	1340.4	1336.1	1330.4	1314.8
3°	1383.0	1380.2	1377.4	1375.9	1367.4	1360.3	1354.6	1344.7	1336.1	1329.0	1306.3
4°	1398.7	1398.7	1395.8	1390.1	1381.6	1373.1	1361.7	1350.3	1337.6	1324.8	1294.9
5°	1417.2	1418.6	1405.8	1404.4	1394.4	1381.6	1368.8	1353.2	1337.6	1320.5	1287.8
6°	1435.6	1428.5	1425.7	1415.7	1401.5	1390.1	1374.5	1357.5	1336.1	1316.2	1272.2
7°	1444.2	1442.7	1435.6	1425.7	1412.9	1394.4	1378.8	1356.0	1333.3	1313.4	1260.8
8°	1458.4	1458.4	1449.8	1437.1	1418.6	1401.5	1381.6	1354.6	1331.9	1306.3	1245.2
9°	1468.3	1468.3	1457.0	1445.6	1428.5	1405.8	1383.0	1353.2	1324.8	1294.9	1230.9
10°	1479.7	1476.9	1468.3	1451.3	1437.1	1411.5	1383.0	1351.8	1320.5	1286.4	1216.7
11°	1488.2	1484.0	1474.0	1461.2	1438.5	1412.9	1383.0	1351.8	1314.8	1277.9	1202.5
12°	1495.3	1492.5	1479.7	1464.1	1441.3	1415.7	1381.6	1346.1	1304.9	1266.5	1184.0
13°	1503.9	1495.3	1482.5	1468.3	1442.7	1412.9	1375.9	1337.6	1297.8	1256.5	1168.4
14°	1502.4	1501.0	1489.6	1469.7	1441.3	1410.0	1374.5	1329.0	1287.8	1245.2	1149.9
15°	1503.9	1502.4	1489.6	1471.2	1439.9	1405.8	1370.2	1323.3	1277.9	1232.4	1131.4
16°	1503.9	1503.9	1486.8	1468.3	1438.5	1401.5	1361.7	1317.7	1267.9	1222.4	1115.8
17°	1503.9	1503.9	1489.6	1464.1	1434.2	1398.7	1353.2	1306.3	1256.5	1208.2	1093.1
18°	1506.7	1502.4	1484.0	1462.6	1428.5	1391.6	1347.5	1297.8	1246.6	1192.6	1077.4
19°	1499.6	1496.8	1481.1	1454.1	1424.3	1383.0	1339.0	1287.8	1236.6	1179.8	1059.0
20°	1495.3	1499.6	1478.3	1449.8	1415.7	1375.9	1330.4	1277.9	1222.4	1165.6	1040.5
21°	1496.8	1495.3	1472.6	1442.7	1410.0	1366.0	1320.5	1266.5	1206.8	1148.5	1023.4
22.5°	1493.9	1489.6	1465.5	1432.8	1393.0	1353.2	1303.4	1248.0	1184.0	1118.7	990.7
23°	1488.2	1484.0	1465.5	1429.9	1387.3	1347.5	1294.9	1236.6	1175.5	1108.7	982.2
24°	1465.5	1464.1	1455.5	1420.0	1380.2	1336.1	1285.0	1218.2	1149.9	1080.3	960.9
25°	1438.5	1441.3	1437.1	1414.3	1368.8	1323.3	1269.3	1195.4	1125.8	1061.8	935.3
26°	1412.9	1412.9	1410.0	1401.5	1357.5	1309.1	1246.6	1168.4	1101.6	1034.8	908.3
27°	1380.2	1385.9	1380.2	1375.9	1346.1	1293.5	1222.4	1149.9	1074.6	1009.2	885.5
28°	1354.6	1354.6	1351.8	1344.7	1334.7	1275.0	1196.8	1122.9	1049.0	986.5	860.0
29°	1309.1	1317.7	1319.1	1320.5	1319.1	1250.8	1172.7	1093.1	1022.0	953.8	835.8
30°	1267.9	1276.4	1282.1	1292.1	1293.5	1229.5	1144.2	1068.9	996.4	929.6	814.5
32.5°	1155.6	1171.2	1186.9	1203.9	1212.5	1165.6	1074.6	992.2	918.2	858.5	749.1
35°	1049.0	1053.3	1070.3	1110.1	1118.7	1088.8	992.2	914.0	844.3	787.5	688.0
37.5°	928.2	936.7	960.9	1006.4	1009.2	985.0	918.2	827.3	761.9	712.1	625.4
40°	828.7	833.0	850.0	888.4	901.2	885.5	827.3	744.8	685.1	636.8	565.7
42.5°	729.2	734.9	756.2	786.0	804.5	786.0	734.9	663.8	605.5	570.0	508.9
45°	646.7	653.9	673.8	690.8	696.5	685.1	639.6	581.4	540.1	503.2	456.3
47.5°	575.7	582.8	597.0	604.1	611.2	599.8	564.3	516.0	474.8	444.9	402.3
50°	521.7	520.2	530.2	533.0	533.0	520.2	490.4	450.6	416.5	392.3	356.8
52.5°	460.5	463.4	470.5	467.6	466.2	454.9	429.3	395.2	366.7	345.4	312.7
55°	416.5	412.2	416.5	413.6	407.9	396.6	373.8	345.4	321.2	302.8	272.9
57.5°	368.1	368.1	369.6	363.9	356.8	344.0	324.1	301.3	280.0	264.4	240.2
60°	324.1	326.9	325.5	319.8	312.7	298.5	282.9	260.1	241.6	230.3	207.5



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	220.3	220.3	216.1	211.8	201.8	189.0	177.7	163.5	153.5	143.6	129.3
70°	187.6	190.5	184.8	177.7	170.6	162.0	149.2	137.9	127.9	120.8	109.4
72.5°	162.0	160.6	156.4	149.2	143.6	133.6	122.2	113.7	105.2	99.5	91.0
75°	133.6	133.6	129.3	123.7	116.6	108.0	99.5	92.4	85.3	79.6	75.3
77.5°	106.6	108.0	103.8	99.5	93.8	85.3	78.2	72.5	66.8	62.5	59.7
80°	82.4	83.9	79.6	76.8	69.6	65.4	59.7	54.0	49.7	46.9	45.5
82.5°	62.5	61.1	58.3	56.9	51.2	46.9	41.2	38.4	35.5	32.7	32.7
85°	41.2	39.8	38.4	37.0	32.7	28.4	27.0	24.2	21.3	19.9	19.9
87.5°	21.3	21.3	19.9	18.5	17.1	14.2	12.8	9.9	8.5	8.5	8.5
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°	1327.6	1327.6	1327.6
1°	1321.9	1316.2	1314.8
2°	1304.9	1296.3	1297.8
3°	1289.2	1279.3	1269.3
4°	1269.3	1253.7	1253.7
5°	1252.3	1236.6	1232.4
6°	1236.6	1211.0	1205.4
7°	1222.4	1191.1	1181.2
8°	1198.3	1167.0	1157.0
9°	1181.2	1147.1	1137.1
10°	1158.5	1124.3	1105.9
11°	1140.0	1101.6	1087.4
12°	1120.1	1073.2	1059.0
13°	1097.3	1049.0	1040.5
14°	1076.0	1029.1	1013.5
15°	1053.3	1004.9	986.5
16°	1029.1	980.8	963.7
17°	1009.2	955.2	942.4
18°	989.3	932.5	912.6
19°	965.1	911.1	888.4
20°	943.8	884.1	865.6
21°	921.1	864.2	844.3
22.5°	889.8	825.8	807.4
23°	879.9	814.5	794.6
24°	857.1	791.7	774.7
25°	834.4	774.7	756.2
26°	814.5	749.1	732.0
27°	794.6	729.2	710.7
28°	773.3	707.9	693.7
29°	751.9	685.1	670.9
30°	729.2	669.5	645.3
32.5°	672.3	618.3	598.4
35°	616.9	570.0	552.9
37.5°	562.9	524.5	508.9
40°	516.0	481.9	466.2
42.5°	467.6	436.4	420.7
45°	417.9	392.3	376.7
47.5°	372.4	351.1	334.0
50°	331.2	309.9	301.3
52.5°	291.4	277.2	281.4
55°	254.4	254.4	253.0
57.5°	218.9	228.8	230.3
60°	191.9	204.7	207.5





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
67.5°	132.2	139.3	142.1
70°	113.7	119.4	120.8
72.5°	96.7	100.9	103.8
75°	78.2	83.9	83.9
77.5°	64.0	66.8	68.2
80°	48.3	49.7	51.2
82.5°	34.1	35.5	37.0
85°	19.9	21.3	22.7
87.5°	8.5	8.5	8.5
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°	287.1	290.0	285.7	278.6	271.5	258.7	244.5	224.6	210.4	199.0	179.1
65°	251.6	253.0	250.2	243.1	236.0	223.2	208.9	191.9	180.5	169.1	152.1

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62.5°	172.0	181.9	183.4
65°	150.7	159.2	160.6

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Scaled Data Report



(END OF REPORT)