

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: P838531

Luminaire Tested: HCSQ630D010-HM63040940-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838531
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: HCSQ630D010-HM63040940-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

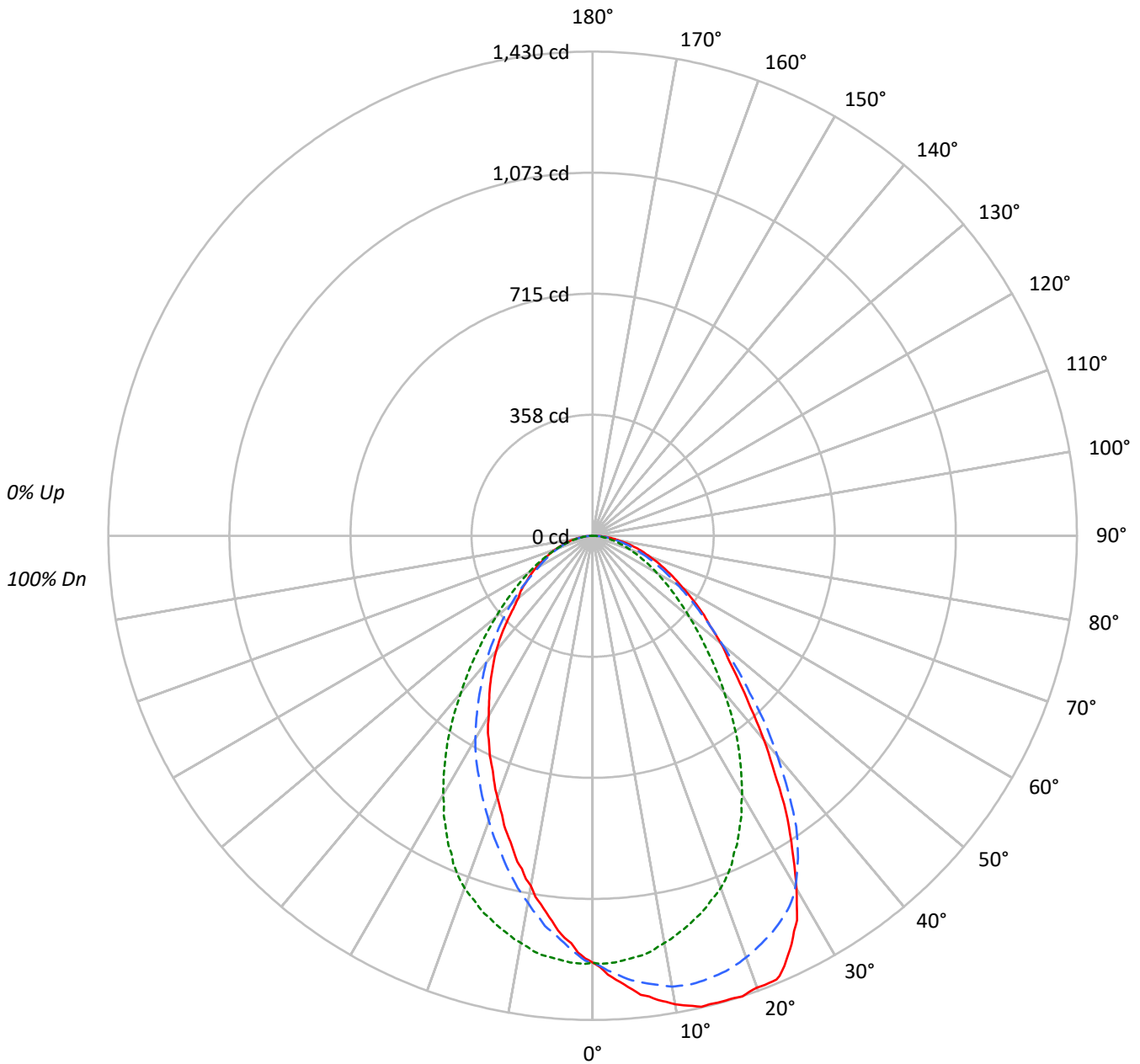
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2383.5 lumens
Efficiency: N/A
Efficacy: 84.5 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): 28.2
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	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°	122111	122111	122111	122111	122111
5°	130844	128150	121917	115615	113777
10°	138200	133021	120139	108197	103279
15°	143198	135486	117343	100293	93934
20°	146361	136618	114082	92381	84732
25°	145980	136606	107756	84678	76736
30°	134660	133977	98729	77442	68538
35°	117778	123928	88413	69267	62088
40°	99500	107265	76459	61954	55972
45°	84120	89860	65446	54363	48992
50°	74647	75356	56140	47384	43119
55°	66782	64502	48541	40806	40569
60°	59617	56217	42354	35301	38169
65°	54762	49960	36814	32779	34957
70°	50446	44710	32488	30590	32488
75°	47498	39919	28297	27773	29794
80°	43682	35760	24826	25607	27113
85°	43460	32234	21008	21008	24009

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 90600 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.9	5.0
10°-20°	331.4	13.9
20°-30°	472.7	19.8
30°-40°	487.1	20.4
40°-50°	392.1	16.5
50°-60°	277.3	11.6
60°-70°	179.7	7.5
70°-80°	96.5	4.1
80°-90°	27.9	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°	922.9	38.7
0°-40°	1410.0	59.2
0°-60°	2079.4	87.2
0°-90°	2383.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2383.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1260	1260	1260	1260	1260	
5°	1346	1318	1254	1189	1170	130
15°	1428	1351	1170	1000	937	404
25°	1366	1278	1008	792	718	622
35°	996	1048	748	586	525	618
45°	614	656	478	397	358	480
55°	395	382	287	242	240	354
65°	239	218	161	143	152	238
75°	127	107	76	74	80	135
85°	39	29	19	19	22	43
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°	1260.5	1260.5	1260.5	1260.5	1260.5	1260.5	1260.5	1260.5	1260.5	1260.5	1260.5
1°	1273.9	1279.3	1275.3	1275.3	1271.3	1269.9	1272.6	1268.6	1267.2	1264.5	1259.1
2°	1296.9	1292.8	1291.5	1292.8	1284.7	1284.7	1280.7	1272.6	1268.6	1263.2	1248.3
3°	1313.1	1310.4	1307.7	1306.3	1298.2	1291.5	1286.1	1276.6	1268.6	1261.8	1240.2
4°	1327.9	1327.9	1325.2	1319.8	1311.7	1303.6	1292.8	1282.0	1269.9	1257.8	1229.4
5°	1345.5	1346.8	1334.7	1333.3	1323.9	1311.7	1299.6	1284.7	1269.9	1253.7	1222.7
6°	1363.0	1356.3	1353.6	1344.1	1330.6	1319.8	1305.0	1288.8	1268.6	1249.7	1207.8
7°	1371.1	1369.8	1363.0	1353.6	1341.4	1323.9	1309.0	1287.4	1265.9	1247.0	1197.0
8°	1384.6	1384.6	1376.5	1364.4	1346.8	1330.6	1311.7	1286.1	1264.5	1240.2	1182.2
9°	1394.1	1394.1	1383.3	1372.5	1356.3	1334.7	1313.1	1284.7	1257.8	1229.4	1168.7
10°	1404.9	1402.2	1394.1	1377.9	1364.4	1340.1	1313.1	1283.4	1253.7	1221.3	1155.2
11°	1412.9	1408.9	1399.5	1387.3	1365.7	1341.4	1313.1	1283.4	1248.3	1213.2	1141.7
12°	1419.7	1417.0	1404.9	1390.0	1368.4	1344.1	1311.7	1278.0	1238.9	1202.4	1124.2
13°	1427.8	1419.7	1407.6	1394.1	1369.8	1341.4	1306.3	1269.9	1232.1	1193.0	1109.3
14°	1426.4	1425.1	1414.3	1395.4	1368.4	1338.7	1305.0	1261.8	1222.7	1182.2	1091.8
15°	1427.8	1426.4	1414.3	1396.8	1367.1	1334.7	1300.9	1256.4	1213.2	1170.0	1074.2
16°	1427.8	1427.8	1411.6	1394.1	1365.7	1330.6	1292.8	1251.0	1203.8	1160.6	1059.4
17°	1427.8	1427.8	1414.3	1390.0	1361.7	1327.9	1284.7	1240.2	1193.0	1147.1	1037.8
18°	1430.5	1426.4	1408.9	1388.7	1356.3	1321.2	1279.3	1232.1	1183.5	1132.2	1022.9
19°	1423.7	1421.0	1406.2	1380.6	1352.2	1313.1	1271.3	1222.7	1174.1	1120.1	1005.4
20°	1419.7	1423.7	1403.5	1376.5	1344.1	1306.3	1263.2	1213.2	1160.6	1106.6	987.9
21°	1421.0	1419.7	1398.1	1369.8	1338.7	1296.9	1253.7	1202.4	1145.7	1090.4	971.7
22.5°	1418.3	1414.3	1391.4	1360.3	1322.5	1284.7	1237.5	1184.9	1124.2	1062.1	940.6
23°	1412.9	1408.9	1391.4	1357.6	1317.1	1279.3	1229.4	1174.1	1116.1	1052.6	932.5
24°	1391.4	1390.0	1381.9	1348.2	1310.4	1268.6	1220.0	1156.5	1091.8	1025.6	912.3
25°	1365.7	1368.4	1364.4	1342.8	1299.6	1256.4	1205.1	1134.9	1068.8	1008.1	888.0
26°	1341.4	1341.4	1338.7	1330.6	1288.8	1242.9	1183.5	1109.3	1045.9	982.5	862.3
27°	1310.4	1315.8	1310.4	1306.3	1278.0	1228.1	1160.6	1091.8	1020.2	958.2	840.8
28°	1286.1	1286.1	1283.4	1276.6	1267.2	1210.5	1136.3	1066.1	995.9	936.6	816.5
29°	1242.9	1251.0	1252.4	1253.7	1252.4	1187.6	1113.4	1037.8	970.3	905.5	793.5
30°	1203.8	1211.9	1217.3	1226.7	1228.1	1167.3	1086.4	1014.8	946.0	882.6	773.3
32.5°	1097.2	1112.0	1126.9	1143.0	1151.1	1106.6	1020.2	942.0	871.8	815.1	711.2
35°	995.9	1000.0	1016.2	1054.0	1062.1	1033.7	942.0	867.7	801.6	747.6	653.2
37.5°	881.2	889.3	912.3	955.5	958.2	935.2	871.8	785.4	723.3	676.1	593.8
40°	786.8	790.8	807.0	843.5	855.6	840.8	785.4	707.1	650.5	604.6	537.1
42.5°	692.3	697.7	717.9	746.3	763.8	746.3	697.7	630.2	574.9	541.2	483.1
45°	614.0	620.8	639.7	655.9	661.3	650.5	607.3	552.0	512.8	477.7	433.2
47.5°	546.6	553.3	566.8	573.5	580.3	569.5	535.8	489.9	450.7	422.4	381.9
50°	495.3	493.9	503.4	506.1	506.1	493.9	465.6	427.8	395.4	372.5	338.7
52.5°	437.2	439.9	446.7	444.0	442.6	431.8	407.6	375.2	348.2	327.9	296.9
55°	395.4	391.4	395.4	392.7	387.3	376.5	354.9	327.9	305.0	287.4	259.1
57.5°	349.5	349.5	350.9	345.5	338.7	326.6	307.7	286.1	265.9	251.0	228.1
60°	307.7	310.4	309.0	303.6	296.9	283.4	268.6	247.0	229.4	218.6	197.0



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	209.2	209.2	205.1	201.1	191.6	179.5	168.7	155.2	145.7	136.3	122.8
70°	178.1	180.8	175.4	168.7	161.9	153.8	141.7	130.9	121.5	114.7	103.9
72.5°	153.8	152.5	148.4	141.7	136.3	126.9	116.1	108.0	99.9	94.5	86.4
75°	126.9	126.9	122.8	117.4	110.7	102.6	94.5	87.7	81.0	75.6	71.5
77.5°	101.2	102.6	98.5	94.5	89.1	81.0	74.2	68.8	63.4	59.4	56.7
80°	78.3	79.6	75.6	72.9	66.1	62.1	56.7	51.3	47.2	44.5	43.2
82.5°	59.4	58.0	55.3	54.0	48.6	44.5	39.1	36.4	33.7	31.0	31.0
85°	39.1	37.8	36.4	35.1	31.0	27.0	25.6	22.9	20.2	18.9	18.9
87.5°	20.2	20.2	18.9	17.5	16.2	13.5	12.1	9.4	8.1	8.1	8.1
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°	1260.5	1260.5	1260.5
1°	1255.1	1249.7	1248.3
2°	1238.9	1230.8	1232.1
3°	1224.0	1214.6	1205.1
4°	1205.1	1190.3	1190.3
5°	1188.9	1174.1	1170.0
6°	1174.1	1149.8	1144.4
7°	1160.6	1130.9	1121.5
8°	1137.6	1108.0	1098.5
9°	1121.5	1089.1	1079.6
10°	1099.9	1067.5	1049.9
11°	1082.3	1045.9	1032.4
12°	1063.4	1018.9	1005.4
13°	1041.8	995.9	987.9
14°	1021.6	977.1	962.2
15°	1000.0	954.1	936.6
16°	977.1	931.2	915.0
17°	958.2	906.9	894.7
18°	939.3	885.3	866.4
19°	916.3	865.0	843.5
20°	896.1	839.4	821.9
21°	874.5	820.5	801.6
22.5°	844.8	784.1	766.5
23°	835.4	773.3	754.4
24°	813.8	751.7	735.5
25°	792.2	735.5	717.9
26°	773.3	711.2	695.0
27°	754.4	692.3	674.8
28°	734.1	672.1	658.6
29°	713.9	650.5	637.0
30°	692.3	635.6	612.7
32.5°	638.3	587.0	568.1
35°	585.7	541.2	525.0
37.5°	534.4	498.0	483.1
40°	489.9	457.5	442.6
42.5°	444.0	414.3	399.5
45°	396.8	372.5	357.6
47.5°	353.6	333.3	317.1
50°	314.4	294.2	286.1
52.5°	276.7	263.2	267.2
55°	241.6	241.6	240.2
57.5°	207.8	217.3	218.6
60°	182.2	194.3	197.0



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	125.5	132.3	135.0
70°	108.0	113.4	114.7
72.5°	91.8	95.8	98.5
75°	74.2	79.6	79.6
77.5°	60.7	63.4	64.8
80°	45.9	47.2	48.6
82.5°	32.4	33.7	35.1
85°	18.9	20.2	21.6
87.5°	8.1	8.1	8.1
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°	272.6	275.3	271.3	264.5	257.8	245.6	232.1	213.2	199.7	188.9	170.0
65°	238.9	240.2	237.5	230.8	224.0	211.9	198.4	182.2	171.4	160.6	144.4

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62.5°	163.3	172.7	174.1
65°	143.0	151.1	152.5

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Scaled Data Report



(END OF REPORT)