

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: P838521

Luminaire Tested: HCSQ630D010-HM63040930-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838521
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-HM63040930-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

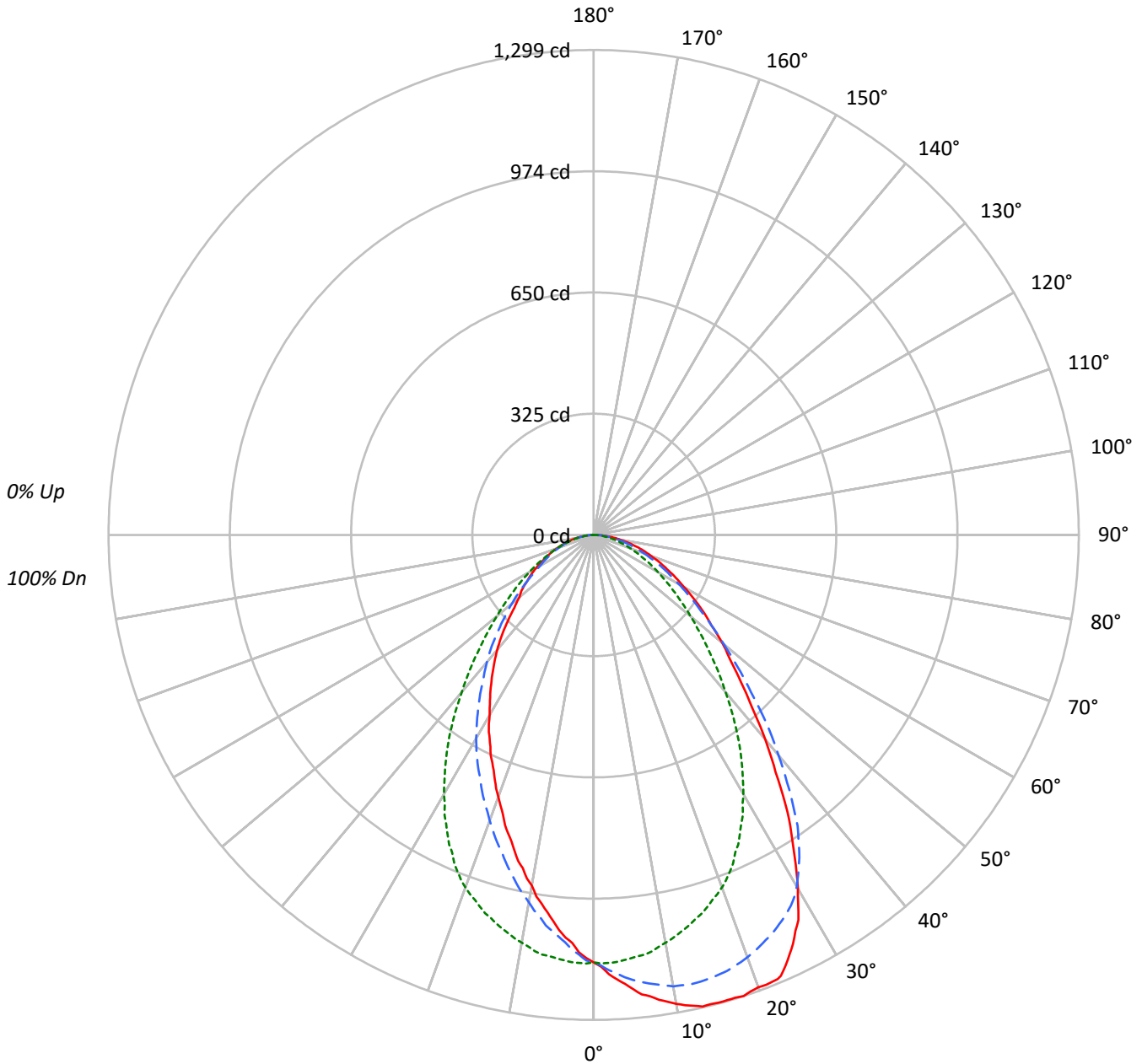
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2164.5 lumens
Efficiency: N/A
Efficacy: 76.8 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): 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	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°	110893	110893	110893	110893	110893
5°	118824	116379	110714	104996	103323
10°	125500	120798	109102	98252	93796
15°	130040	123039	106561	91076	85299
20°	132917	124067	103598	83897	76948
25°	132565	124057	97858	76897	69692
30°	122288	121667	89657	70328	62240
35°	106957	112545	80289	62904	56376
40°	90357	97407	69428	56263	50838
45°	76393	81599	59432	49362	44498
50°	67790	68431	50971	43043	39155
55°	60651	58574	44082	37056	36836
60°	54134	51053	38460	32046	34662
65°	49719	45364	33421	29777	31748
70°	45829	40617	29514	27758	29514
75°	43119	36232	25677	25228	27062
80°	39666	32497	22538	23264	24603
85°	39459	29289	19118	19118	21786

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 82270 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.0	5.0
10°-20°	300.9	13.9
20°-30°	429.2	19.8
30°-40°	442.3	20.4
40°-50°	356.1	16.5
50°-60°	251.8	11.6
60°-70°	163.2	7.5
70°-80°	87.7	4.0
80°-90°	25.3	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°	838.1	38.7
0°-40°	1280.5	59.2
0°-60°	1888.3	87.2
0°-90°	2164.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2164.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1145	1145	1145	1145	1145	
5°	1222	1197	1138	1080	1062	118
15°	1297	1227	1062	908	850	367
25°	1240	1161	916	719	652	565
35°	904	952	679	532	477	561
45°	558	596	434	360	325	436
55°	359	347	261	219	218	321
65°	217	198	146	130	138	216
75°	115	97	69	67	72	122
85°	36	26	17	17	20	39
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°	1144.7	1144.7	1144.7	1144.7	1144.7	1144.7	1144.7	1144.7	1144.7	1144.7	1144.7
1°	1156.9	1161.8	1158.1	1158.1	1154.5	1153.2	1155.7	1152.0	1150.8	1148.3	1143.4
2°	1177.7	1174.1	1172.8	1174.1	1166.7	1166.7	1163.0	1155.7	1152.0	1147.1	1133.6
3°	1192.4	1190.0	1187.5	1186.3	1179.0	1172.8	1167.9	1159.4	1152.0	1145.9	1126.3
4°	1205.9	1205.9	1203.5	1198.6	1191.2	1183.9	1174.1	1164.3	1153.2	1142.2	1116.5
5°	1221.9	1223.1	1212.1	1210.8	1202.3	1191.2	1180.2	1166.7	1153.2	1138.5	1110.3
6°	1237.8	1231.7	1229.2	1220.6	1208.4	1198.6	1185.1	1170.4	1152.0	1134.8	1096.9
7°	1245.1	1243.9	1237.8	1229.2	1218.2	1202.3	1188.8	1169.2	1149.6	1132.4	1087.1
8°	1257.4	1257.4	1250.0	1239.0	1223.1	1208.4	1191.2	1167.9	1148.3	1126.3	1073.6
9°	1266.0	1266.0	1256.2	1246.4	1231.7	1212.1	1192.4	1166.7	1142.2	1116.5	1061.3
10°	1275.8	1273.3	1266.0	1251.3	1239.0	1217.0	1192.4	1165.5	1138.5	1109.1	1049.1
11°	1283.1	1279.5	1270.9	1259.9	1240.2	1218.2	1192.4	1165.5	1133.6	1101.8	1036.8
12°	1289.3	1286.8	1275.8	1262.3	1242.7	1220.6	1191.2	1160.6	1125.0	1092.0	1020.9
13°	1296.6	1289.3	1278.2	1266.0	1243.9	1218.2	1186.3	1153.2	1118.9	1083.4	1007.4
14°	1295.4	1294.2	1284.4	1267.2	1242.7	1215.7	1185.1	1145.9	1110.3	1073.6	991.5
15°	1296.6	1295.4	1284.4	1268.4	1241.5	1212.1	1181.4	1141.0	1101.8	1062.5	975.5
16°	1296.6	1296.6	1281.9	1266.0	1240.2	1208.4	1174.1	1136.1	1093.2	1054.0	962.0
17°	1296.6	1296.6	1284.4	1262.3	1236.6	1205.9	1166.7	1126.3	1083.4	1041.7	942.4
18°	1299.1	1295.4	1279.5	1261.1	1231.7	1199.8	1161.8	1118.9	1074.8	1028.2	929.0
19°	1292.9	1290.5	1277.0	1253.7	1228.0	1192.4	1154.5	1110.3	1066.2	1017.2	913.0
20°	1289.3	1292.9	1274.6	1250.0	1220.6	1186.3	1147.1	1101.8	1054.0	1004.9	897.1
21°	1290.5	1289.3	1269.7	1243.9	1215.7	1177.7	1138.5	1092.0	1040.5	990.2	882.4
22.5°	1288.0	1284.4	1263.5	1235.3	1201.0	1166.7	1123.8	1076.0	1020.9	964.5	854.2
23°	1283.1	1279.5	1263.5	1232.9	1196.1	1161.8	1116.5	1066.2	1013.5	955.9	846.8
24°	1263.5	1262.3	1255.0	1224.3	1190.0	1152.0	1107.9	1050.3	991.5	931.4	828.5
25°	1240.2	1242.7	1239.0	1219.4	1180.2	1141.0	1094.4	1030.7	970.6	915.5	806.4
26°	1218.2	1218.2	1215.7	1208.4	1170.4	1128.7	1074.8	1007.4	949.8	892.2	783.1
27°	1190.0	1194.9	1190.0	1186.3	1160.6	1115.2	1054.0	991.5	926.5	870.1	763.5
28°	1167.9	1167.9	1165.5	1159.4	1150.8	1099.3	1031.9	968.2	904.4	850.5	741.5
29°	1128.7	1136.1	1137.3	1138.5	1137.3	1078.5	1011.1	942.4	881.2	822.3	720.6
30°	1093.2	1100.5	1105.4	1114.0	1115.2	1060.1	986.6	921.6	859.1	801.5	702.2
32.5°	996.4	1009.8	1023.3	1038.0	1045.4	1004.9	926.5	855.4	791.7	740.2	645.9
35°	904.4	908.1	922.8	957.1	964.5	938.8	855.4	788.0	728.0	678.9	593.2
37.5°	800.3	807.6	828.5	867.7	870.1	849.3	791.7	713.3	656.9	614.0	539.2
40°	714.5	718.2	732.9	766.0	777.0	763.5	713.3	642.2	590.7	549.0	487.8
42.5°	628.7	633.6	652.0	677.7	693.7	677.7	633.6	572.3	522.1	491.4	438.7
45°	557.6	563.7	580.9	595.6	600.5	590.7	551.5	501.2	465.7	433.8	393.4
47.5°	496.3	502.5	514.7	520.9	527.0	517.2	486.5	444.9	409.3	383.6	346.8
50°	449.8	448.5	457.1	459.6	459.6	448.5	422.8	388.5	359.1	338.2	307.6
52.5°	397.1	399.5	405.7	403.2	402.0	392.2	370.1	340.7	316.2	297.8	269.6
55°	359.1	355.4	359.1	356.6	351.7	341.9	322.3	297.8	277.0	261.0	235.3
57.5°	317.4	317.4	318.6	313.7	307.6	296.6	279.4	259.8	241.4	228.0	207.1
60°	279.4	281.9	280.6	275.7	269.6	257.4	243.9	224.3	208.3	198.5	178.9



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	<i>190.0</i>	190.0	186.3	182.6	174.0	163.0	153.2	140.9	132.4	123.8	111.5
70°	<i>161.8</i>	164.2	159.3	153.2	147.1	139.7	128.7	118.9	110.3	104.2	94.4
72.5°	<i>139.7</i>	138.5	134.8	128.7	123.8	115.2	105.4	98.0	90.7	85.8	78.4
75°	<i>115.2</i>	115.2	111.5	106.6	100.5	93.1	85.8	79.7	73.5	68.6	65.0
77.5°	<i>91.9</i>	93.1	89.5	85.8	80.9	73.5	67.4	62.5	57.6	53.9	51.5
80°	<i>71.1</i>	72.3	68.6	66.2	60.1	56.4	51.5	46.6	42.9	40.4	39.2
82.5°	<i>53.9</i>	52.7	50.2	49.0	44.1	40.4	35.5	33.1	30.6	28.2	28.2
85°	<i>35.5</i>	34.3	33.1	31.9	28.2	24.5	23.3	20.8	18.4	17.2	17.2
87.5°	<i>18.4</i>	18.4	17.2	15.9	14.7	12.3	11.0	8.6	7.4	7.4	7.4
90°	<i>0.0</i>	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°	1144.7	1144.7	1144.7
1°	1139.8	1134.8	1133.6
2°	1125.0	1117.7	1118.9
3°	1111.6	1103.0	1094.4
4°	1094.4	1080.9	1080.9
5°	1079.7	1066.2	1062.5
6°	1066.2	1044.2	1039.3
7°	1054.0	1027.0	1018.4
8°	1033.1	1006.2	997.6
9°	1018.4	989.0	980.4
10°	998.8	969.4	953.5
11°	982.9	949.8	937.5
12°	965.7	925.3	913.0
13°	946.1	904.4	897.1
14°	927.7	887.3	873.8
15°	908.1	866.5	850.5
16°	887.3	845.6	830.9
17°	870.1	823.6	812.5
18°	853.0	804.0	786.8
19°	832.1	785.6	766.0
20°	813.8	762.3	746.4
21°	794.1	745.1	728.0
22.5°	767.2	712.0	696.1
23°	758.6	702.2	685.1
24°	739.0	682.6	667.9
25°	719.4	667.9	652.0
26°	702.2	645.9	631.2
27°	685.1	628.7	612.8
28°	666.7	610.3	598.1
29°	648.3	590.7	578.5
30°	628.7	577.2	556.4
32.5°	579.7	533.1	516.0
35°	531.9	491.4	476.7
37.5°	485.3	452.2	438.7
40°	444.9	415.5	402.0
42.5°	403.2	376.2	362.8
45°	360.3	338.2	324.8
47.5°	321.1	302.7	288.0
50°	285.6	267.2	259.8
52.5°	251.2	239.0	242.7
55°	219.4	219.4	218.1
57.5°	188.7	197.3	198.5
60°	165.4	176.5	178.9



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	114.0	120.1	122.6
70°	98.0	102.9	104.2
72.5°	83.3	87.0	89.5
75°	67.4	72.3	72.3
77.5°	55.1	57.6	58.8
80°	41.7	42.9	44.1
82.5°	29.4	30.6	31.9
85°	17.2	18.4	19.6
87.5°	7.4	7.4	7.4
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°	247.6	250.0	246.3	240.2	234.1	223.0	210.8	193.6	181.4	171.6	154.4
65°	216.9	218.1	215.7	209.6	203.4	192.4	180.2	165.4	155.6	145.8	131.1

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62.5°	148.3	156.9	158.1
65°	129.9	137.3	138.5

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(END OF REPORT)