

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: P838496

Luminaire Tested: HCSQ630D010-HM63040827-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838496
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-HM63040827-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

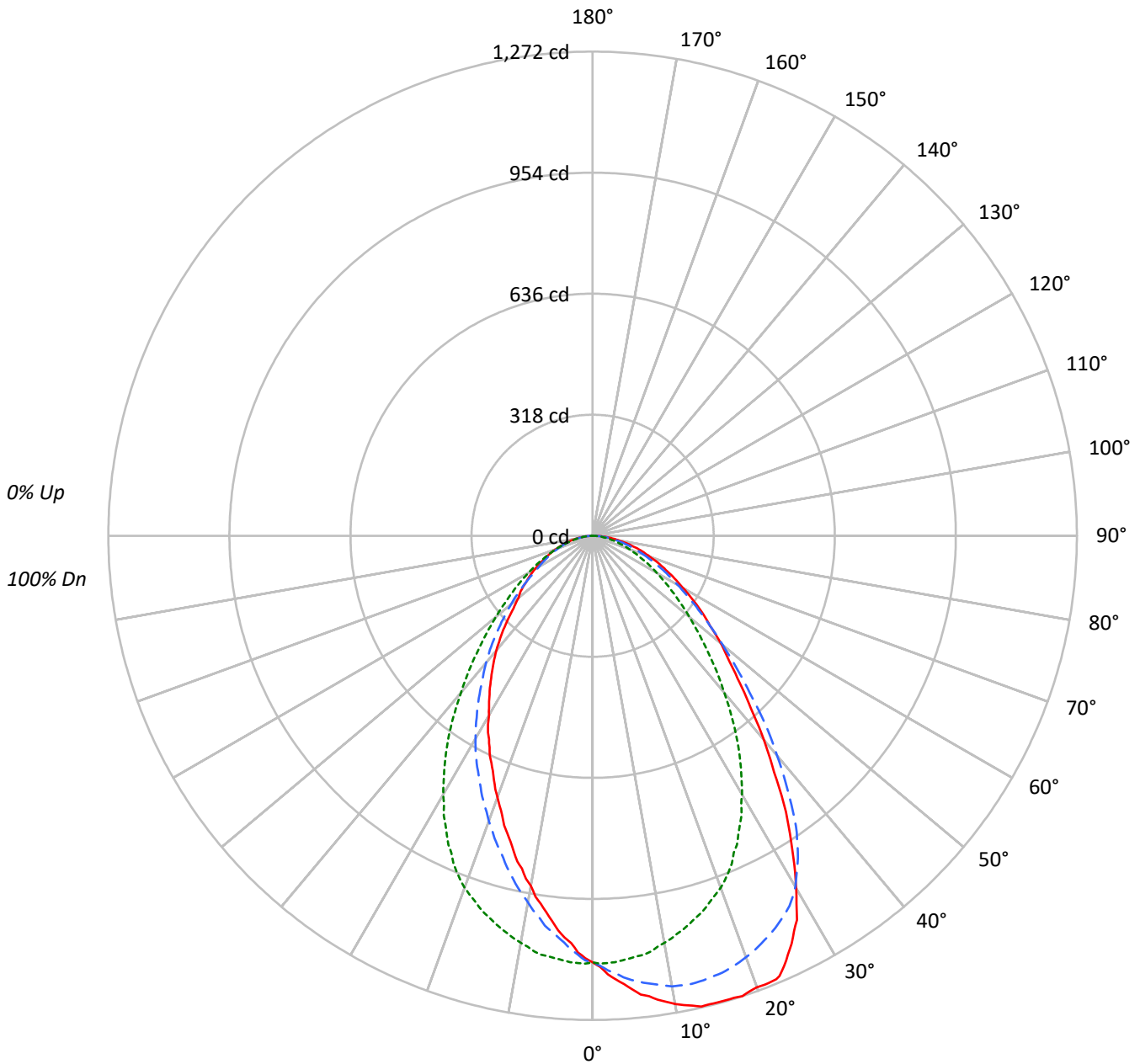
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2119.1 lumens
Efficiency: N/A
Efficacy: 75.1 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									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°	108559	108559	108559	108559	108559
5°	116325	113933	108390	102788	101155
10°	122864	118260	106810	96186	91818
15°	127312	120452	104325	89160	83514
20°	130124	121464	101423	82134	75330
25°	129786	121449	95795	75283	68228
30°	119715	119111	87778	68851	60931
35°	104710	110174	78609	61580	55193
40°	88460	95365	67973	55074	49763
45°	74790	79886	58185	48321	43553
50°	66358	66991	49901	42139	38341
55°	59367	57341	43170	36279	36076
60°	53010	49988	37665	31388	33945
65°	48688	44424	32734	29158	31083
70°	44866	39768	28891	27192	28891
75°	42221	35483	25153	24704	26500
80°	38829	31799	22092	22762	24101
85°	38681	28677	18674	18674	21341

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 80544 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.7	5.0
10°-20°	294.6	13.9
20°-30°	420.2	19.8
30°-40°	433.1	20.4
40°-50°	348.6	16.5
50°-60°	246.5	11.6
60°-70°	159.8	7.5
70°-80°	85.8	4.1
80°-90°	24.8	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°	820.5	38.7
0°-40°	1253.6	59.2
0°-60°	1848.7	87.2
0°-90°	2119.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2119.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1121	1121	1121	1121	1121	
5°	1196	1172	1115	1057	1040	116
15°	1269	1201	1040	889	833	359
25°	1214	1136	896	704	638	553
35°	885	932	665	521	467	550
45°	546	583	425	353	318	427
55°	352	340	256	215	214	314
65°	212	194	143	127	136	212
75°	113	95	67	66	71	120
85°	35	26	17	17	19	38
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°	1120.6	1120.6	1120.6	1120.6	1120.6	1120.6	1120.6	1120.6	1120.6	1120.6	1120.6
1°	1132.6	1137.4	1133.8	1133.8	1130.2	1129.0	1131.4	1127.8	1126.6	1124.2	1119.4
2°	1153.0	1149.4	1148.2	1149.4	1142.2	1142.2	1138.6	1131.4	1127.8	1123.0	1109.8
3°	1167.4	1165.0	1162.6	1161.4	1154.2	1148.2	1143.4	1135.0	1127.8	1121.8	1102.6
4°	1180.6	1180.6	1178.2	1173.4	1166.2	1159.0	1149.4	1139.8	1129.0	1118.2	1093.0
5°	1196.2	1197.4	1186.6	1185.4	1177.0	1166.2	1155.4	1142.2	1129.0	1114.6	1087.0
6°	1211.8	1205.8	1203.4	1195.0	1183.0	1173.4	1160.2	1145.8	1127.8	1111.0	1073.8
7°	1219.0	1217.8	1211.8	1203.4	1192.6	1177.0	1163.8	1144.6	1125.4	1108.6	1064.2
8°	1231.0	1231.0	1223.8	1213.0	1197.4	1183.0	1166.2	1143.4	1124.2	1102.6	1051.0
9°	1239.4	1239.4	1229.8	1220.2	1205.8	1186.6	1167.4	1142.2	1118.2	1093.0	1039.0
10°	1249.0	1246.6	1239.4	1225.0	1213.0	1191.4	1167.4	1141.0	1114.6	1085.8	1027.0
11°	1256.2	1252.6	1244.2	1233.4	1214.2	1192.6	1167.4	1141.0	1109.8	1078.6	1015.0
12°	1262.2	1259.8	1249.0	1235.8	1216.6	1195.0	1166.2	1136.2	1101.4	1069.0	999.4
13°	1269.4	1262.2	1251.4	1239.4	1217.8	1192.6	1161.4	1129.0	1095.4	1060.6	986.2
14°	1268.2	1267.0	1257.4	1240.6	1216.6	1190.2	1160.2	1121.8	1087.0	1051.0	970.6
15°	1269.4	1268.2	1257.4	1241.8	1215.4	1186.6	1156.6	1117.0	1078.6	1040.2	955.0
16°	1269.4	1269.4	1255.0	1239.4	1214.2	1183.0	1149.4	1112.2	1070.2	1031.8	941.8
17°	1269.4	1269.4	1257.4	1235.8	1210.6	1180.6	1142.2	1102.6	1060.6	1019.8	922.6
18°	1271.8	1268.2	1252.6	1234.6	1205.8	1174.6	1137.4	1095.4	1052.2	1006.6	909.4
19°	1265.8	1263.4	1250.2	1227.4	1202.2	1167.4	1130.2	1087.0	1043.8	995.8	893.8
20°	1262.2	1265.8	1247.8	1223.8	1195.0	1161.4	1123.0	1078.6	1031.8	983.8	878.2
21°	1263.4	1262.2	1243.0	1217.8	1190.2	1153.0	1114.6	1069.0	1018.6	969.4	863.8
22.5°	1261.0	1257.4	1237.0	1209.4	1175.8	1142.2	1100.2	1053.4	999.4	944.2	836.3
23°	1256.2	1252.6	1237.0	1207.0	1171.0	1137.4	1093.0	1043.8	992.2	935.8	829.1
24°	1237.0	1235.8	1228.6	1198.6	1165.0	1127.8	1084.6	1028.2	970.6	911.8	811.1
25°	1214.2	1216.6	1213.0	1193.8	1155.4	1117.0	1071.4	1009.0	950.2	896.2	789.5
26°	1192.6	1192.6	1190.2	1183.0	1145.8	1105.0	1052.2	986.2	929.8	873.4	766.7
27°	1165.0	1169.8	1165.0	1161.4	1136.2	1091.8	1031.8	970.6	907.0	851.8	747.5
28°	1143.4	1143.4	1141.0	1135.0	1126.6	1076.2	1010.2	947.8	885.4	832.7	725.9
29°	1105.0	1112.2	1113.4	1114.6	1113.4	1055.8	989.8	922.6	862.6	805.1	705.5
30°	1070.2	1077.4	1082.2	1090.6	1091.8	1037.8	965.8	902.2	841.1	784.7	687.5
32.5°	975.4	988.6	1001.8	1016.2	1023.4	983.8	907.0	837.5	775.1	724.7	632.3
35°	885.4	889.0	903.4	937.0	944.2	919.0	837.5	771.5	712.7	664.7	580.7
37.5°	783.5	790.7	811.1	849.4	851.8	831.5	775.1	698.3	643.1	601.1	527.9
40°	699.5	703.1	717.5	749.9	760.7	747.5	698.3	628.7	578.3	537.5	477.5
42.5°	615.5	620.3	638.3	663.5	679.1	663.5	620.3	560.3	511.1	481.1	429.5
45°	545.9	551.9	568.7	583.1	587.9	578.3	539.9	490.7	455.9	424.7	385.1
47.5°	485.9	491.9	503.9	509.9	515.9	506.3	476.3	435.5	400.7	375.5	339.5
50°	440.3	439.1	447.5	449.9	449.9	439.1	413.9	380.3	351.5	331.1	301.1
52.5°	388.7	391.1	397.1	394.7	393.5	383.9	362.3	333.5	309.5	291.5	264.0
55°	351.5	347.9	351.5	349.1	344.3	334.7	315.5	291.5	271.2	255.6	230.4
57.5°	310.7	310.7	311.9	307.1	301.1	290.3	273.6	254.4	236.4	223.2	202.8
60°	273.6	276.0	274.8	270.0	264.0	252.0	238.8	219.6	204.0	194.4	175.2



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	<i>186.0</i>	186.0	182.4	178.8	170.4	159.6	150.0	138.0	129.6	121.2	109.2
70°	<i>158.4</i>	160.8	156.0	150.0	144.0	136.8	126.0	116.4	108.0	102.0	92.4
72.5°	<i>136.8</i>	135.6	132.0	126.0	121.2	112.8	103.2	96.0	88.8	84.0	76.8
75°	<i>112.8</i>	112.8	109.2	104.4	98.4	91.2	84.0	78.0	72.0	67.2	63.6
77.5°	<i>90.0</i>	91.2	87.6	84.0	79.2	72.0	66.0	61.2	56.4	52.8	50.4
80°	<i>69.6</i>	70.8	67.2	64.8	58.8	55.2	50.4	45.6	42.0	39.6	38.4
82.5°	<i>52.8</i>	51.6	49.2	48.0	43.2	39.6	34.8	32.4	30.0	27.6	27.6
85°	<i>34.8</i>	33.6	32.4	31.2	27.6	24.0	22.8	20.4	18.0	16.8	16.8
87.5°	<i>18.0</i>	18.0	16.8	15.6	14.4	12.0	10.8	8.4	7.2	7.2	7.2
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°	1120.6	1120.6	1120.6
1°	1115.8	1111.0	1109.8
2°	1101.4	1094.2	1095.4
3°	1088.2	1079.8	1071.4
4°	1071.4	1058.2	1058.2
5°	1057.0	1043.8	1040.2
6°	1043.8	1022.2	1017.4
7°	1031.8	1005.4	997.0
8°	1011.4	985.0	976.6
9°	997.0	968.2	959.8
10°	977.8	949.0	933.4
11°	962.2	929.8	917.8
12°	945.4	905.8	893.8
13°	926.2	885.4	878.2
14°	908.2	868.6	855.4
15°	889.0	848.2	832.7
16°	868.6	827.9	813.5
17°	851.8	806.3	795.5
18°	835.1	787.1	770.3
19°	814.7	769.1	749.9
20°	796.7	746.3	730.7
21°	777.5	729.5	712.7
22.5°	751.1	697.1	681.5
23°	742.7	687.5	670.7
24°	723.5	668.3	653.9
25°	704.3	653.9	638.3
26°	687.5	632.3	617.9
27°	670.7	615.5	599.9
28°	652.7	597.5	585.5
29°	634.7	578.3	566.3
30°	615.5	565.1	544.7
32.5°	567.5	521.9	505.1
35°	520.7	481.1	466.7
37.5°	475.1	442.7	429.5
40°	435.5	406.7	393.5
42.5°	394.7	368.3	355.1
45°	352.7	331.1	317.9
47.5°	314.3	296.3	282.0
50°	279.6	261.6	254.4
52.5°	246.0	234.0	237.6
55°	214.8	214.8	213.6
57.5°	184.8	193.2	194.4
60°	162.0	172.8	175.2



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	111.6	117.6	120.0
70°	96.0	100.8	102.0
72.5°	81.6	85.2	87.6
75°	66.0	70.8	70.8
77.5°	54.0	56.4	57.6
80°	40.8	42.0	43.2
82.5°	28.8	30.0	31.2
85°	16.8	18.0	19.2
87.5°	7.2	7.2	7.2
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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Scaled Data Report





62.5°	242.4	244.8	241.2	235.2	229.2	218.4	206.4	189.6	177.6	168.0	151.2
65°	212.4	213.6	211.2	205.2	199.2	188.4	176.4	162.0	152.4	142.8	128.4

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62.5°	145.2	153.6	154.8
65°	127.2	134.4	135.6

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Scaled Data Report



(END OF REPORT)