

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: P838516

Luminaire Tested: HCSQ630D010-HM63040927-61SQLWW

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838516
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-HM63040927-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

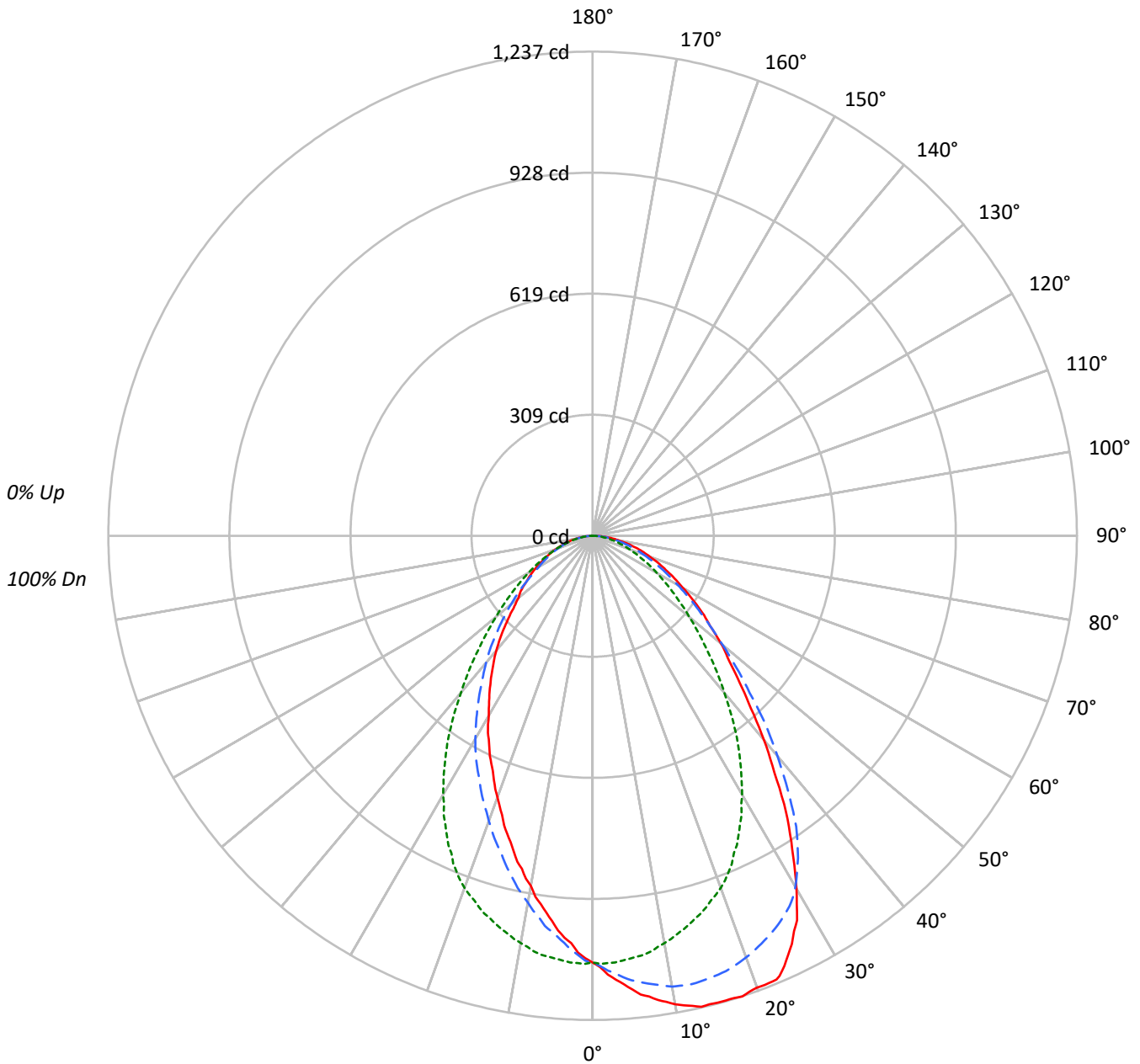
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2061.8 lumens
Efficiency: N/A
Efficacy: 73.1 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					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			
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87					87			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75					75			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	69	63	85	75	68	62	73	66	62	71	65	61	68	64	60	58					58			
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	53	51					51			
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46					46			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42					42			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38					38			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34					34			
10	58	46	39	34	57	45	38	34	44	38	34	44	38	33	43	37	33	32					32			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	105623	105623	105623	105623	105623
5°	113184	110855	105463	100007	98422
10°	119539	115063	103928	93589	89340
15°	123872	117192	101506	86753	81247
20°	126608	118180	98680	79907	73289
25°	126280	118167	93208	73241	66379
30°	116482	115895	85407	66994	59287
35°	101884	107200	76481	59912	53703
40°	86070	92785	66140	53595	48422
45°	72762	77728	56609	47019	42389
50°	64565	65190	48559	40994	37301
55°	57763	55795	41988	35300	35097
60°	51576	48622	36638	30535	33015
65°	47358	43221	31840	28355	30235
70°	43648	38691	28098	26455	28098
75°	41060	34510	24479	24030	25789
80°	37769	30935	21479	22148	23431
85°	37681	27844	18118	18118	20785

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 78365 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.8	5.0
10°-20°	286.6	13.9
20°-30°	408.9	19.8
30°-40°	421.3	20.4
40°-50°	339.2	16.5
50°-60°	239.8	11.6
60°-70°	155.4	7.5
70°-80°	83.5	4.1
80°-90°	24.1	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°	798.3	38.7
0°-40°	1219.7	59.2
0°-60°	1798.7	87.2
0°-90°	2061.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2061.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1090	1090	1090	1090	1090	
5°	1164	1140	1084	1028	1012	113
15°	1235	1168	1012	865	810	349
25°	1181	1106	872	685	621	538
35°	862	906	647	507	454	535
45°	531	567	413	343	309	415
55°	342	330	249	209	208	306
65°	207	189	139	124	132	206
75°	110	92	65	64	69	116
85°	34	25	16	16	19	37
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°	1090.3	1090.3	1090.3	1090.3	1090.3	1090.3	1090.3	1090.3	1090.3	1090.3	1090.3
1°	1102.0	1106.7	1103.2	1103.2	1099.7	1098.5	1100.8	1097.3	1096.2	1093.8	1089.1
2°	1121.8	1118.3	1117.2	1118.3	1111.3	1111.3	1107.8	1100.8	1097.3	1092.6	1079.8
3°	1135.8	1133.5	1131.2	1130.0	1123.0	1117.2	1112.5	1104.3	1097.3	1091.5	1072.8
4°	1148.7	1148.7	1146.3	1141.7	1134.7	1127.7	1118.3	1109.0	1098.5	1088.0	1063.5
5°	1163.9	1165.0	1154.5	1153.4	1145.2	1134.7	1124.2	1111.3	1098.5	1084.5	1057.6
6°	1179.0	1173.2	1170.9	1162.7	1151.0	1141.7	1128.8	1114.8	1097.3	1081.0	1044.8
7°	1186.0	1184.9	1179.0	1170.9	1160.4	1145.2	1132.3	1113.7	1095.0	1078.6	1035.4
8°	1197.7	1197.7	1190.7	1180.2	1165.0	1151.0	1134.7	1112.5	1093.8	1072.8	1022.6
9°	1205.9	1205.9	1196.5	1187.2	1173.2	1154.5	1135.8	1111.3	1088.0	1063.5	1010.9
10°	1215.2	1212.9	1205.9	1191.9	1180.2	1159.2	1135.8	1110.2	1084.5	1056.5	999.3
11°	1222.2	1218.7	1210.6	1200.0	1181.4	1160.4	1135.8	1110.2	1079.8	1049.5	987.6
12°	1228.1	1225.7	1215.2	1202.4	1183.7	1162.7	1134.7	1105.5	1071.6	1040.1	972.4
13°	1235.1	1228.1	1217.6	1205.9	1184.9	1160.4	1130.0	1098.5	1065.8	1031.9	959.6
14°	1233.9	1232.7	1223.4	1207.1	1183.7	1158.0	1128.8	1091.5	1057.6	1022.6	944.4
15°	1235.1	1233.9	1223.4	1208.2	1182.5	1154.5	1125.3	1086.8	1049.5	1012.1	929.2
16°	1235.1	1235.1	1221.1	1205.9	1181.4	1151.0	1118.3	1082.1	1041.3	1003.9	916.4
17°	1235.1	1235.1	1223.4	1202.4	1177.9	1148.7	1111.3	1072.8	1031.9	992.3	897.7
18°	1237.4	1233.9	1218.7	1201.2	1173.2	1142.8	1106.7	1065.8	1023.8	979.4	884.9
19°	1231.6	1229.2	1216.4	1194.2	1169.7	1135.8	1099.7	1057.6	1015.6	968.9	869.7
20°	1228.1	1231.6	1214.1	1190.7	1162.7	1130.0	1092.6	1049.5	1003.9	957.2	854.5
21°	1229.2	1228.1	1209.4	1184.9	1158.0	1121.8	1084.5	1040.1	991.1	943.2	840.5
22.5°	1226.9	1223.4	1203.5	1176.7	1144.0	1111.3	1070.5	1024.9	972.4	918.7	813.7
23°	1222.2	1218.7	1203.5	1174.4	1139.3	1106.7	1063.5	1015.6	965.4	910.5	806.6
24°	1203.5	1202.4	1195.4	1166.2	1133.5	1097.3	1055.3	1000.4	944.4	887.2	789.1
25°	1181.4	1183.7	1180.2	1161.5	1124.2	1086.8	1042.5	981.8	924.5	872.0	768.1
26°	1160.4	1160.4	1158.0	1151.0	1114.8	1075.1	1023.8	959.6	904.7	849.8	745.9
27°	1133.5	1138.2	1133.5	1130.0	1105.5	1062.3	1003.9	944.4	882.5	828.8	727.3
28°	1112.5	1112.5	1110.2	1104.3	1096.2	1047.1	982.9	922.2	861.5	810.1	706.3
29°	1075.1	1082.1	1083.3	1084.5	1083.3	1027.3	963.1	897.7	839.3	783.3	686.4
30°	1041.3	1048.3	1053.0	1061.1	1062.3	1009.8	939.7	877.9	818.3	763.5	668.9
32.5°	949.1	961.9	974.7	988.8	995.8	957.2	882.5	814.8	754.1	705.1	615.2
35°	861.5	865.0	879.0	911.7	918.7	894.2	814.8	750.6	693.4	646.7	565.0
37.5°	762.3	769.3	789.1	826.5	828.8	809.0	754.1	679.4	625.7	584.8	513.6
40°	680.6	684.1	698.1	729.6	740.1	727.3	679.4	611.7	562.7	523.0	464.6
42.5°	598.9	603.5	621.0	645.6	660.7	645.6	603.5	545.2	497.3	468.1	417.9
45°	531.1	537.0	553.3	567.3	572.0	562.7	525.3	477.5	443.6	413.2	374.7
47.5°	472.8	478.6	490.3	496.1	502.0	492.6	463.4	423.8	389.9	365.4	330.4
50°	428.4	427.3	435.4	437.8	437.8	427.3	402.7	370.1	342.0	322.2	293.0
52.5°	378.2	380.6	386.4	384.1	382.9	373.6	352.5	324.5	301.2	283.7	256.8
55°	342.0	338.5	342.0	339.7	335.0	325.7	307.0	283.7	263.8	248.6	224.1
57.5°	302.3	302.3	303.5	298.8	293.0	282.5	266.2	247.5	230.0	217.1	197.3
60°	266.2	268.5	267.3	262.7	256.8	245.1	232.3	213.6	198.5	189.1	170.4



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	<i>180.9</i>	180.9	177.4	173.9	165.8	155.3	145.9	134.2	126.1	117.9	106.2
70°	<i>154.1</i>	156.4	151.8	145.9	140.1	133.1	122.6	113.2	105.1	99.2	89.9
72.5°	<i>133.1</i>	131.9	128.4	122.6	117.9	109.7	100.4	93.4	86.4	81.7	74.7
75°	<i>109.7</i>	109.7	106.2	101.6	95.7	88.7	81.7	75.9	70.0	65.4	61.9
77.5°	<i>87.6</i>	88.7	85.2	81.7	77.0	70.0	64.2	59.5	54.9	51.4	49.0
80°	<i>67.7</i>	68.9	65.4	63.0	57.2	53.7	49.0	44.4	40.9	38.5	37.4
82.5°	<i>51.4</i>	50.2	47.9	46.7	42.0	38.5	33.9	31.5	29.2	26.8	26.8
85°	<i>33.9</i>	32.7	31.5	30.4	26.8	23.3	22.2	19.8	17.5	16.3	16.3
87.5°	<i>17.5</i>	17.5	16.3	15.2	14.0	11.7	10.5	8.2	7.0	7.0	7.0
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°	1090.3	1090.3	1090.3
1°	1085.6	1081.0	1079.8
2°	1071.6	1064.6	1065.8
3°	1058.8	1050.6	1042.5
4°	1042.5	1029.6	1029.6
5°	1028.4	1015.6	1012.1
6°	1015.6	994.6	989.9
7°	1003.9	978.2	970.1
8°	984.1	958.4	950.2
9°	970.1	942.1	933.9
10°	951.4	923.4	908.2
11°	936.2	904.7	893.0
12°	919.9	881.4	869.7
13°	901.2	861.5	854.5
14°	883.7	845.2	832.3
15°	865.0	825.3	810.1
16°	845.2	805.5	791.5
17°	828.8	784.5	774.0
18°	812.5	765.8	749.4
19°	792.6	748.3	729.6
20°	775.1	726.1	710.9
21°	756.4	709.8	693.4
22.5°	730.8	678.2	663.1
23°	722.6	668.9	652.6
24°	703.9	650.2	636.2
25°	685.2	636.2	621.0
26°	668.9	615.2	601.2
27°	652.6	598.9	583.7
28°	635.0	581.3	569.7
29°	617.5	562.7	551.0
30°	598.9	549.8	530.0
32.5°	552.2	507.8	491.5
35°	506.6	468.1	454.1
37.5°	462.3	430.8	417.9
40°	423.8	395.7	382.9
42.5°	384.1	358.4	345.5
45°	343.2	322.2	309.4
47.5°	305.8	288.3	274.3
50°	272.0	254.5	247.5
52.5°	239.3	227.6	231.1
55°	209.0	209.0	207.8
57.5°	179.8	187.9	189.1
60°	157.6	168.1	170.4



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	108.6	114.4	116.7
70°	93.4	98.1	99.2
72.5°	79.4	82.9	85.2
75°	64.2	68.9	68.9
77.5°	52.5	54.9	56.0
80°	39.7	40.9	42.0
82.5°	28.0	29.2	30.4
85°	16.3	17.5	18.7
87.5°	7.0	7.0	7.0
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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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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Scaled Data Report





62.5°	235.8	238.1	234.6	228.8	223.0	212.5	200.8	184.4	172.8	163.4	147.1
65°	206.6	207.8	205.5	199.6	193.8	183.3	171.6	157.6	148.3	138.9	124.9

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62.5°	141.3	149.4	150.6
65°	123.7	130.7	131.9

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(END OF REPORT)