

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: P837660

Luminaire Tested: HCSQ455D010-HM44560930-41SQLWW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837660
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ455D010-HM44560930-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

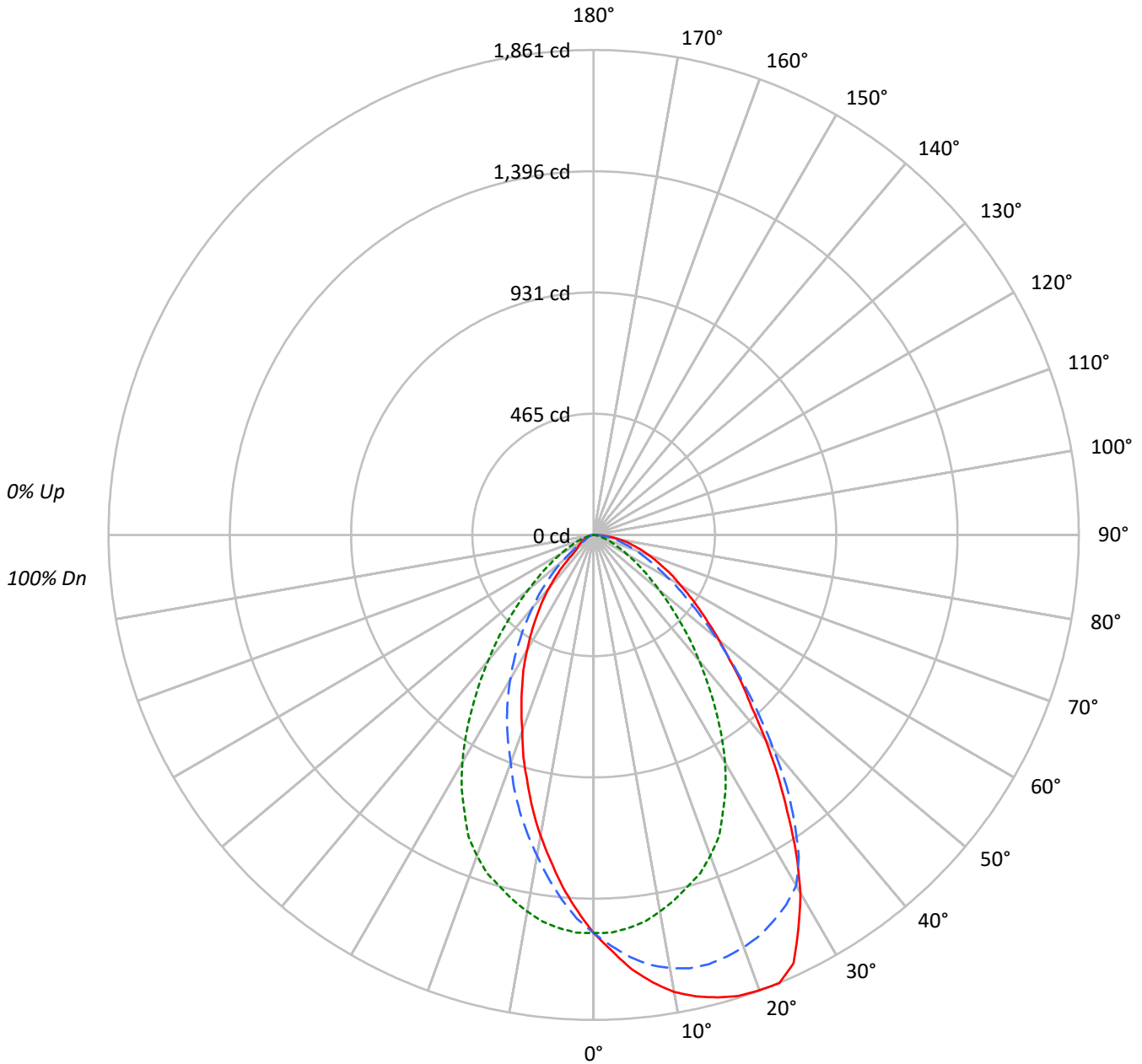
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2471.0 lumens
Efficiency: N/A
Efficacy: 45.8 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 54
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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CATALOG NUMBER: HCSQ455D010-HM44560930-41SQLWW

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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89								
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78								
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69								
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62								
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55								
6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50								
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45								
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42								
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38								
10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	147987	147987	147987	147987	147987
5°	162672	158248	147288	136542	131913
10°	175216	166048	144309	122992	115319
15°	184288	171029	139959	109961	98447
20°	191670	173577	134928	95835	82649
25°	193867	174637	125307	84080	69489
30°	177436	173789	112712	71502	56960
35°	152985	158626	96101	58682	45106
40°	129611	135643	79469	46310	33702
45°	109835	112506	63528	34442	21674
50°	94707	92416	49313	23179	13067
55°	83435	76122	37698	12802	11705
60°	74303	63822	28133	7130	10501
65°	68057	54648	20860	6464	9444
70°	63220	47245	15352	6146	9205
75°	59214	41360	10555	5689	8122
80°	56793	36262	7252	6025	7252
85°	55354	31345	4780	4780	4780

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 114288 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.2	5.8
10°-20°	394.4	16.0
20°-30°	551.4	22.3
30°-40°	539.0	21.8
40°-50°	391.1	15.8
50°-60°	235.8	9.5
60°-70°	132.5	5.4
70°-80°	65.6	2.7
80°-90°	18.0	0.7
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°	1089.0	44.1
0°-40°	1628.0	65.9
0°-60°	2254.9	91.3
0°-90°	2471.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2471.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1528	1528	1528	1528	1528	
5°	1673	1627	1515	1404	1356	163
15°	1838	1705	1396	1096	982	520
25°	1814	1634	1172	787	650	817
35°	1294	1341	813	496	381	810
45°	802	821	464	251	158	622
55°	494	451	223	76	69	444
65°	297	238	91	28	41	297
75°	158	110	28	15	22	170
85°	50	28	4	4	4	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6	1527.6
2.5°	1597.0	1592.7	1579.6	1553.6	1527.6	1497.3	1473.5	1456.1	1443.1
5°	1672.8	1664.2	1627.3	1573.1	1514.6	1456.1	1404.1	1373.8	1356.5
7.5°	1731.3	1716.2	1664.2	1588.3	1497.3	1408.5	1328.3	1280.6	1261.1
10°	1781.2	1755.2	1688.0	1586.2	1467.0	1350.0	1250.3	1193.9	1172.3
12.5°	1813.7	1785.5	1703.2	1584.0	1434.5	1291.5	1174.4	1100.8	1079.1
15°	1837.5	1802.8	1705.3	1566.6	1395.5	1230.8	1096.4	1009.8	981.6
17.5°	1854.8	1807.2	1696.7	1547.1	1360.8	1167.9	1016.3	923.1	894.9
20°	1859.2	1807.2	1683.7	1519.0	1308.8	1105.1	929.6	836.4	801.7
22.5°	1861.3	1800.7	1664.2	1484.3	1254.6	1033.6	858.1	760.6	723.7
25°	1813.7	1779.0	1633.8	1425.8	1172.3	955.6	786.6	680.4	650.1
27.5°	1701.0	1698.8	1599.2	1347.8	1096.4	871.1	712.9	611.1	582.9
30°	1586.2	1588.3	1553.6	1261.1	1007.6	790.9	639.2	539.6	509.2
32.5°	1445.3	1467.0	1464.8	1163.6	912.3	715.1	567.7	474.5	444.2
35°	1293.6	1332.6	1341.3	1053.1	812.6	628.4	496.2	411.7	381.4
37.5°	1157.1	1196.1	1215.6	955.6	719.4	552.6	429.0	355.4	325.0
40°	1024.9	1057.4	1072.6	842.9	628.4	474.5	366.2	296.9	266.5
42.5°	897.1	944.8	940.4	747.6	548.2	411.7	309.9	240.5	210.2
45°	801.7	834.2	821.2	647.9	463.7	346.7	251.4	186.4	158.2
47.5°	706.4	730.2	710.7	563.4	392.2	286.0	203.7	136.5	106.2
50°	628.4	639.2	613.2	478.9	327.2	234.0	153.8	91.0	86.7
52.5°	554.7	561.2	524.4	407.4	270.9	188.5	112.7	71.5	75.8
55°	494.0	491.9	450.7	344.5	223.2	145.2	75.8	65.0	69.3
57.5°	435.5	429.0	387.9	286.0	182.0	112.7	45.5	56.3	60.7
60°	383.5	377.0	329.4	236.2	145.2	84.5	36.8	49.8	54.2
62.5°	342.4	327.2	279.5	195.0	117.0	60.7	32.5	43.3	47.7
65°	296.9	283.9	238.4	158.2	91.0	43.3	28.2	36.8	41.2
67.5°	260.0	244.9	201.5	130.0	73.7	30.3	26.0	32.5	36.8
70°	223.2	210.2	166.8	104.0	54.2	19.5	21.7	28.2	32.5
72.5°	192.9	177.7	138.7	82.3	41.2	15.2	19.5	23.8	26.0
75°	158.2	145.2	110.5	62.8	28.2	13.0	15.2	19.5	21.7
77.5°	132.2	119.2	86.7	47.7	19.5	10.8	13.0	17.3	17.3
80°	101.8	91.0	65.0	32.5	13.0	6.5	10.8	13.0	13.0
82.5°	73.7	65.0	45.5	21.7	6.5	6.5	6.5	8.7	8.7
85°	49.8	43.3	28.2	13.0	4.3	4.3	4.3	4.3	4.3
87.5°	28.2	21.7	13.0	4.3	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	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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