

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: P837615

Luminaire Tested: HCSQ450D010-HM44560927-41SQLWW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837615
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: HCSQ450D010-HM44560927-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

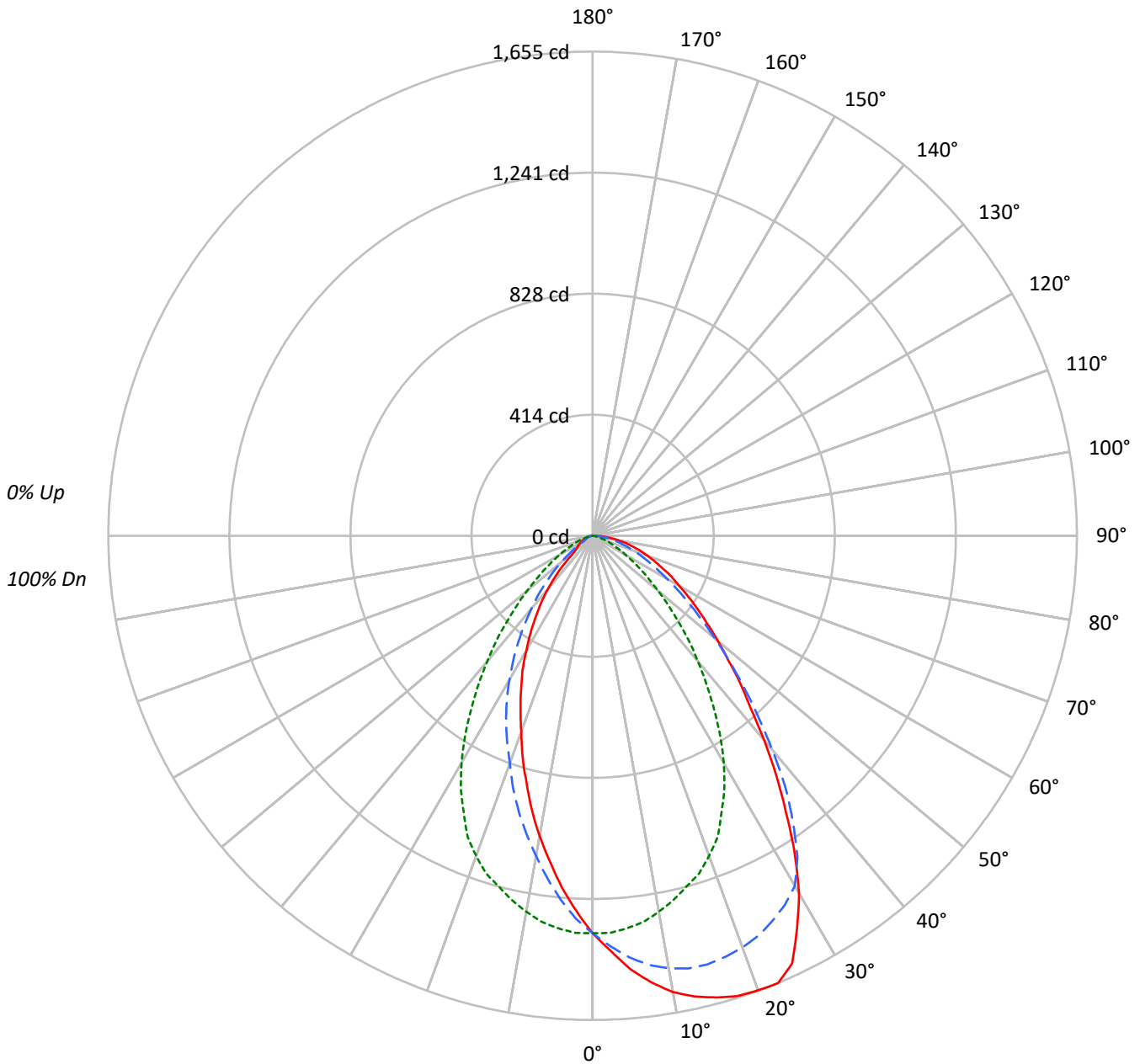
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2197.4 lumens
Efficiency: N/A
Efficacy: 44.2 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): 49.7
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	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°	131605	131605	131605	131605	131605
5°	144662	140724	130980	121421	117297
10°	155808	147663	128324	109368	102551
15°	163878	152094	124453	97786	87546
20°	170443	154350	119979	85216	73505
25°	172393	155301	111433	74770	61793
30°	157782	154549	100228	63582	50651
35°	136050	141064	85457	52189	40103
40°	115257	120619	70667	41176	29971
45°	97683	100053	56500	30620	19276
50°	84218	82183	43857	20617	11620
55°	74197	67694	33526	11384	10421
60°	66088	56750	25013	6355	9339
65°	60516	48596	18544	5731	8390
70°	56224	42034	13652	5467	8186
75°	52664	36793	9357	5053	7224
80°	50544	32246	6471	5356	6471
85°	49240	27788	4335	4335	4335

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 101642 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.4	5.8
10°-20°	350.7	16.0
20°-30°	490.3	22.3
30°-40°	479.3	21.8
40°-50°	347.8	15.8
50°-60°	209.7	9.5
60°-70°	117.9	5.4
70°-80°	58.4	2.7
80°-90°	16.0	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°	968.4	44.1
0°-40°	1447.7	65.9
0°-60°	2005.2	91.3
0°-90°	2197.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2197.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1358	1358	1358	1358	1358	
5°	1488	1447	1347	1249	1206	145
15°	1634	1516	1241	975	873	463
25°	1613	1453	1042	700	578	727
35°	1150	1193	723	441	339	720
45°	713	730	412	224	141	553
55°	439	401	198	67	62	395
65°	264	212	81	25	37	264
75°	141	98	25	14	19	151
85°	44	25	4	4	4	49
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°	1358.5	1358.5	1358.5	1358.5	1358.5	1358.5	1358.5	1358.5	1358.5
2.5°	1420.1	1416.3	1404.7	1381.6	1358.5	1331.5	1310.3	1294.9	1283.3
5°	1487.6	1479.9	1447.1	1398.9	1346.9	1294.9	1248.6	1221.7	1206.2
7.5°	1539.6	1526.1	1479.9	1412.4	1331.5	1252.5	1181.2	1138.8	1121.5
10°	1583.9	1560.8	1501.1	1410.5	1304.5	1200.5	1111.8	1061.7	1042.5
12.5°	1612.8	1587.8	1514.5	1408.6	1275.6	1148.4	1044.4	978.9	959.6
15°	1634.0	1603.2	1516.5	1393.2	1240.9	1094.5	975.0	897.9	872.9
17.5°	1649.4	1607.0	1508.8	1375.8	1210.1	1038.6	903.7	820.9	795.8
20°	1653.3	1607.0	1497.2	1350.8	1163.8	982.7	826.6	743.8	713.0
22.5°	1655.2	1601.3	1479.9	1319.9	1115.7	919.1	763.1	676.3	643.6
25°	1612.8	1582.0	1452.9	1267.9	1042.5	849.8	699.5	605.0	578.1
27.5°	1512.6	1510.7	1422.1	1198.5	975.0	774.6	634.0	543.4	518.3
30°	1410.5	1412.4	1381.6	1121.5	896.0	703.3	568.4	479.8	452.8
32.5°	1285.2	1304.5	1302.6	1034.7	811.2	635.9	504.8	422.0	395.0
35°	1150.4	1185.0	1192.8	936.5	722.6	558.8	441.3	366.1	339.1
37.5°	1029.0	1063.7	1081.0	849.8	639.7	491.4	381.5	316.0	289.0
40°	911.4	940.3	953.8	749.6	558.8	422.0	325.6	264.0	237.0
42.5°	797.7	840.1	836.3	664.8	487.5	366.1	275.5	213.9	186.9
45°	713.0	741.9	730.3	576.1	412.4	308.3	223.5	165.7	140.7
47.5°	628.2	649.4	632.0	501.0	348.8	254.4	181.1	121.4	94.4
50°	558.8	568.4	545.3	425.8	291.0	208.1	136.8	80.9	77.1
52.5°	493.3	499.1	466.3	362.3	240.9	167.6	100.2	63.6	67.4
55°	439.3	437.4	400.8	306.4	198.5	129.1	67.4	57.8	61.7
57.5°	387.3	381.5	344.9	254.4	161.9	100.2	40.5	50.1	54.0
60°	341.1	335.3	292.9	210.0	129.1	75.1	32.8	44.3	48.2
62.5°	304.5	291.0	248.6	173.4	104.1	54.0	28.9	38.5	42.4
65°	264.0	252.4	212.0	140.7	80.9	38.5	25.0	32.8	36.6
67.5°	231.2	217.7	179.2	115.6	65.5	27.0	23.1	28.9	32.8
70°	198.5	186.9	148.4	92.5	48.2	17.3	19.3	25.0	28.9
72.5°	171.5	158.0	123.3	73.2	36.6	13.5	17.3	21.2	23.1
75°	140.7	129.1	98.3	55.9	25.0	11.6	13.5	17.3	19.3
77.5°	117.5	106.0	77.1	42.4	17.3	9.6	11.6	15.4	15.4
80°	90.6	80.9	57.8	28.9	11.6	5.8	9.6	11.6	11.6
82.5°	65.5	57.8	40.5	19.3	5.8	5.8	5.8	7.7	7.7
85°	44.3	38.5	25.0	11.6	3.9	3.9	3.9	3.9	3.9
87.5°	25.0	19.3	11.6	3.9	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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