

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P837630

Luminaire Tested: HCSQ450D010-HM44560940-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837630
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-HM44560940-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

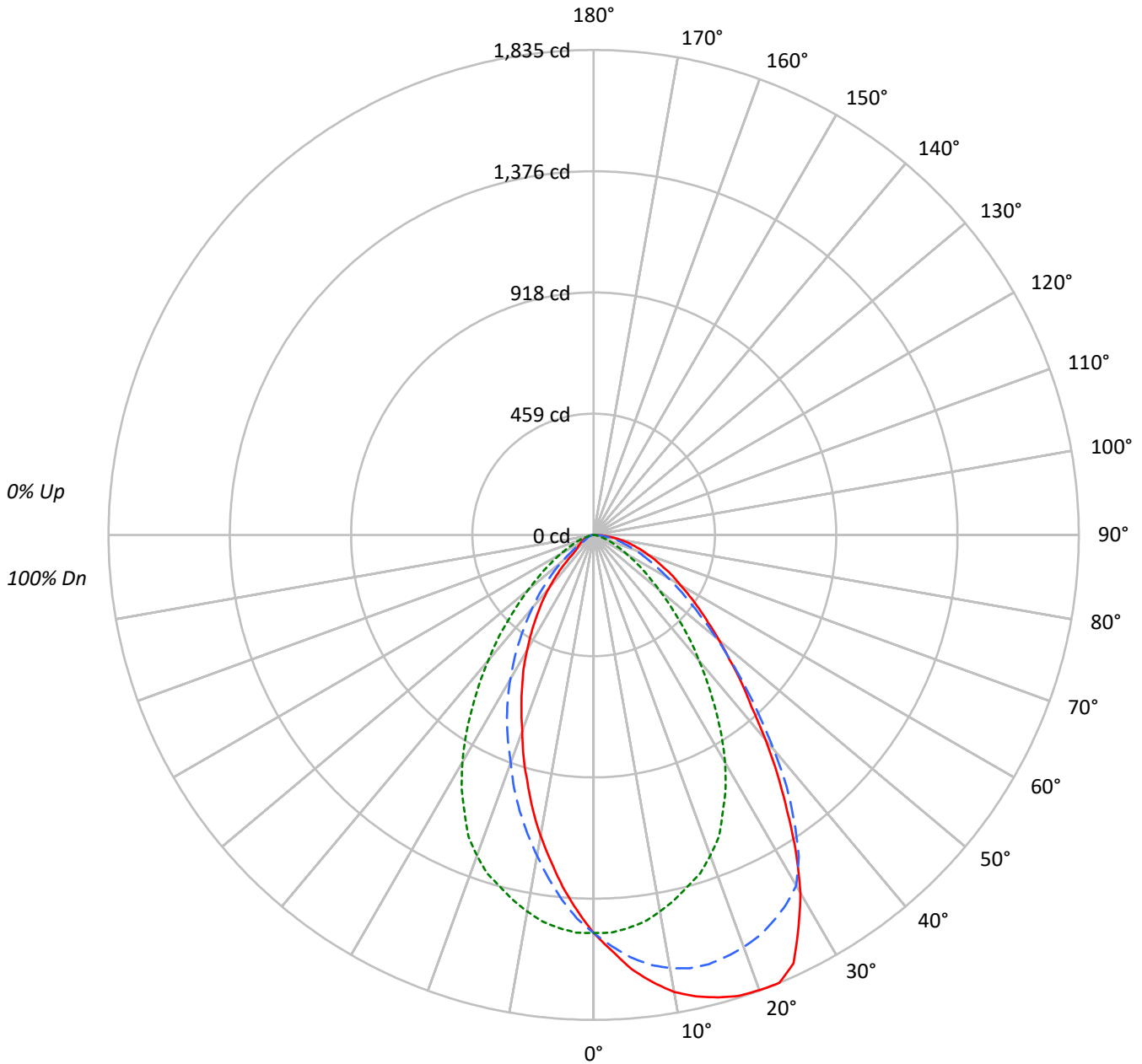
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2436.3 lumens
Efficiency: N/A
Efficacy: 49.0 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	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°	145914	145914	145914	145914	145914
5°	160387	156030	145226	134627	130056
10°	172747	163717	142282	121261	113696
15°	181701	168632	137993	108417	97063
20°	188979	171134	133031	94484	81495
25°	191141	172189	123544	82893	68506
30°	174941	171350	111124	70496	56166
35°	150833	156391	94752	57854	44467
40°	127790	133733	78356	45665	33234
45°	108301	110931	62638	33949	21372
50°	93381	91120	48620	22863	12886
55°	82270	75058	37174	12634	11553
60°	73257	62911	27726	7033	10346
65°	67095	53868	20562	6373	9307
70°	62342	46594	15125	6061	9064
75°	58390	40798	10405	5614	8010
80°	56011	35760	7141	5969	7141
85°	54576	30900	4780	4780	4780

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 112685 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.2	5.8
10°-20°	388.8	16.0
20°-30°	543.6	22.3
30°-40°	531.4	21.8
40°-50°	385.6	15.8
50°-60°	232.5	9.5
60°-70°	130.7	5.4
70°-80°	64.7	2.7
80°-90°	17.7	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°	1073.7	44.1
0°-40°	1605.1	65.9
0°-60°	2223.2	91.3
0°-90°	2436.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2436.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1506	1506	1506	1506	1506	
5°	1649	1604	1493	1384	1337	160
15°	1812	1681	1376	1081	968	513
25°	1788	1611	1156	776	641	806
35°	1275	1322	801	489	376	799
45°	790	810	457	248	156	613
55°	487	444	220	75	68	438
65°	293	235	90	28	41	293
75°	156	109	28	15	21	168
85°	49	28	4	4	4	54
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°	1506.2	1506.2	1506.2	1506.2	1506.2	1506.2	1506.2	1506.2	1506.2
2.5°	1574.5	1570.3	1557.5	1531.8	1506.2	1476.3	1452.8	1435.7	1422.9
5°	1649.3	1640.8	1604.5	1551.0	1493.4	1435.7	1384.4	1354.5	1337.4
7.5°	1707.0	1692.1	1640.8	1566.0	1476.3	1388.7	1309.6	1262.6	1243.4
10°	1756.1	1730.5	1664.3	1563.9	1446.4	1331.0	1232.7	1177.2	1155.8
12.5°	1788.2	1760.4	1679.2	1561.7	1414.3	1273.3	1157.9	1085.3	1063.9
15°	1811.7	1777.5	1681.4	1544.6	1375.9	1213.5	1081.0	995.6	967.8
17.5°	1828.8	1781.8	1672.8	1525.4	1341.7	1151.5	1002.0	910.1	882.3
20°	1833.1	1781.8	1660.0	1497.6	1290.4	1089.6	916.5	824.7	790.5
22.5°	1835.2	1775.4	1640.8	1463.5	1237.0	1019.1	846.0	749.9	713.6
25°	1788.2	1754.0	1610.9	1405.8	1155.8	942.2	775.5	670.8	640.9
27.5°	1677.1	1675.0	1576.7	1328.9	1081.0	858.8	702.9	602.5	574.7
30°	1563.9	1566.0	1531.8	1243.4	993.4	779.8	630.2	532.0	502.1
32.5°	1425.0	1446.4	1444.2	1147.3	899.4	705.0	559.7	467.9	438.0
35°	1275.4	1313.9	1322.4	1038.3	801.2	619.6	489.2	405.9	376.0
37.5°	1140.9	1179.3	1198.5	942.2	709.3	544.8	423.0	350.4	320.5
40°	1010.5	1042.6	1057.5	831.1	619.6	467.9	361.1	292.7	262.8
42.5°	884.5	931.5	927.2	737.1	540.5	405.9	305.5	237.1	207.2
45°	790.5	822.5	809.7	638.8	457.2	341.8	247.8	183.7	156.0
47.5°	696.5	720.0	700.7	555.5	386.7	282.0	200.8	134.6	104.7
50°	619.6	630.2	604.6	472.2	322.6	230.7	151.7	89.7	85.5
52.5°	546.9	553.3	517.0	401.6	267.1	185.9	111.1	70.5	74.8
55°	487.1	485.0	444.4	339.7	220.1	143.1	74.8	64.1	68.4
57.5°	429.4	423.0	382.4	282.0	179.5	111.1	44.9	55.5	59.8
60°	378.1	371.7	324.7	232.9	143.1	83.3	36.3	49.1	53.4
62.5°	337.6	322.6	275.6	192.3	115.4	59.8	32.0	42.7	47.0
65°	292.7	279.9	235.0	156.0	89.7	42.7	27.8	36.3	40.6
67.5°	256.4	241.4	198.7	128.2	72.6	29.9	25.6	32.0	36.3
70°	220.1	207.2	164.5	102.5	53.4	19.2	21.4	27.8	32.0
72.5°	190.1	175.2	136.7	81.2	40.6	15.0	19.2	23.5	25.6
75°	156.0	143.1	109.0	62.0	27.8	12.8	15.0	19.2	21.4
77.5°	130.3	117.5	85.5	47.0	19.2	10.7	12.8	17.1	17.1
80°	100.4	89.7	64.1	32.0	12.8	6.4	10.7	12.8	12.8
82.5°	72.6	64.1	44.9	21.4	6.4	6.4	6.4	8.5	8.5
85°	49.1	42.7	27.8	12.8	4.3	4.3	4.3	4.3	4.3
87.5°	27.8	21.4	12.8	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

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Scaled Data Report



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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