

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: P837610

Luminaire Tested: HCSQ450D010-HM44560840-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837610
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-HM44560840-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

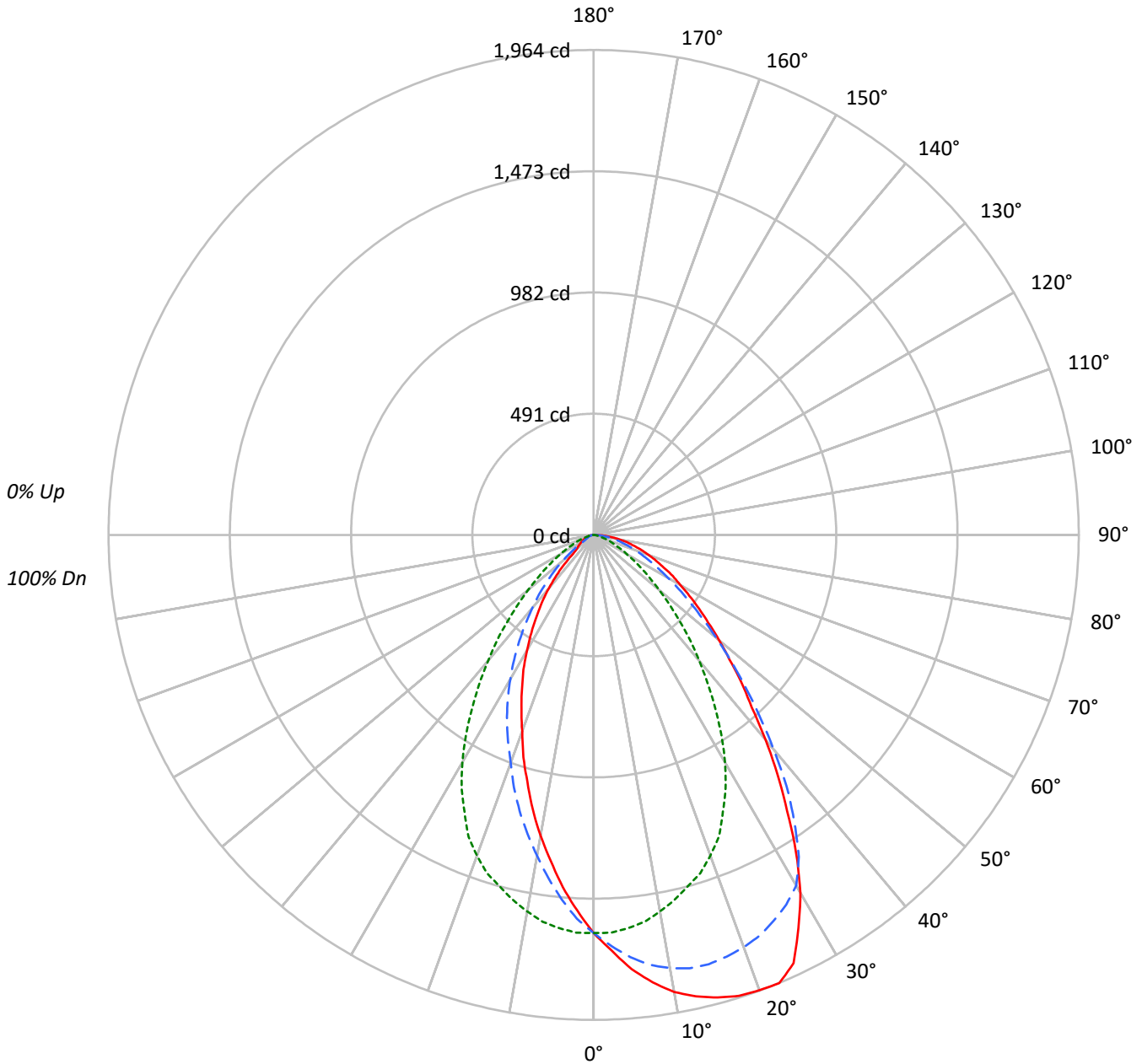
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2607.8 lumens
Efficiency: N/A
Efficacy: 52.5 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°	156183	156183	156183	156183	156183
5°	171687	167009	155447	144108	139217
10°	184916	175246	152296	129799	121703
15°	194498	180507	147701	116049	103893
20°	202278	183185	142402	101144	87227
25°	204599	184311	132245	88730	73337
30°	187257	183420	118954	75462	60115
35°	161465	167413	101422	61934	47601
40°	136794	143155	83870	48878	35574
45°	115918	118740	67049	36347	22866
50°	99952	97540	52041	24476	13790
55°	88063	80344	39775	13512	12363
60°	78430	67348	29683	7537	11083
65°	71817	57673	22006	6808	9971
70°	66704	49879	16202	6486	9715
75°	62470	43643	11117	5989	8571
80°	59972	38271	7643	6360	7643
85°	58466	33012	5113	5113	5113

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 120617 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.2	5.8
10°-20°	416.2	16.0
20°-30°	581.9	22.3
30°-40°	568.8	21.8
40°-50°	412.8	15.8
50°-60°	248.8	9.5
60°-70°	139.9	5.4
70°-80°	69.3	2.7
80°-90°	19.0	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°	1149.3	44.1
0°-40°	1718.1	65.9
0°-60°	2379.7	91.3
0°-90°	2607.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2607.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1612	1612	1612	1612	1612	
5°	1766	1717	1598	1482	1432	172
15°	1939	1800	1473	1157	1036	549
25°	1914	1724	1237	830	686	863
35°	1365	1416	858	524	402	855
45°	846	867	489	265	167	656
55°	521	476	236	80	73	469
65°	313	252	96	30	44	314
75°	167	117	30	16	23	180
85°	53	30	5	5	5	58
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°	1612.2	1612.2	1612.2	1612.2	1612.2	1612.2	1612.2	1612.2	1612.2
2.5°	1685.4	1680.8	1667.1	1639.7	1612.2	1580.2	1555.1	1536.8	1523.0
5°	1765.5	1756.3	1717.4	1660.3	1598.5	1536.8	1481.9	1449.9	1431.6
7.5°	1827.2	1811.2	1756.3	1676.3	1580.2	1486.5	1401.8	1351.5	1330.9
10°	1879.8	1852.4	1781.5	1674.0	1548.2	1424.7	1319.5	1260.1	1237.2
12.5°	1914.1	1884.4	1797.5	1671.7	1513.9	1363.0	1239.5	1161.7	1138.9
15°	1939.3	1902.7	1799.8	1653.4	1472.7	1298.9	1157.1	1065.7	1035.9
17.5°	1957.5	1907.2	1790.6	1632.8	1436.1	1232.6	1072.5	974.2	944.5
20°	1962.1	1907.2	1776.9	1603.1	1381.3	1166.3	981.1	882.7	846.1
22.5°	1964.4	1900.4	1756.3	1566.5	1324.1	1090.8	905.6	802.7	763.8
25°	1914.1	1877.5	1724.3	1504.8	1237.2	1008.5	830.1	718.1	686.1
27.5°	1795.2	1792.9	1687.7	1422.4	1157.1	919.3	752.4	644.9	615.2
30°	1674.0	1676.3	1639.7	1330.9	1063.4	834.7	674.6	569.4	537.4
32.5°	1525.3	1548.2	1545.9	1228.0	962.8	754.7	599.2	500.8	468.8
35°	1365.3	1406.4	1415.6	1111.4	857.6	663.2	523.7	434.5	402.5
37.5°	1221.2	1262.3	1282.9	1008.5	759.2	583.1	452.8	375.0	343.0
40°	1081.7	1116.0	1132.0	889.6	663.2	500.8	386.5	313.3	281.3
42.5°	946.8	997.1	992.5	789.0	578.6	434.5	327.0	253.8	221.8
45°	846.1	880.4	866.7	683.8	489.4	365.9	265.3	196.7	166.9
47.5°	745.5	770.7	750.1	594.6	413.9	301.9	215.0	144.1	112.1
50°	663.2	674.6	647.2	505.4	345.3	247.0	162.4	96.0	91.5
52.5°	585.4	592.3	553.4	429.9	285.9	199.0	118.9	75.5	80.0
55°	521.4	519.1	475.7	363.6	235.5	153.2	80.0	68.6	73.2
57.5°	459.7	452.8	409.3	301.9	192.1	118.9	48.0	59.5	64.0
60°	404.8	397.9	347.6	249.3	153.2	89.2	38.9	52.6	57.2
62.5°	361.3	345.3	295.0	205.8	123.5	64.0	34.3	45.7	50.3
65°	313.3	299.6	251.6	166.9	96.0	45.7	29.7	38.9	43.5
67.5°	274.4	258.4	212.7	137.2	77.8	32.0	27.4	34.3	38.9
70°	235.5	221.8	176.1	109.8	57.2	20.6	22.9	29.7	34.3
72.5°	203.5	187.5	146.4	86.9	43.5	16.0	20.6	25.2	27.4
75°	166.9	153.2	116.6	66.3	29.7	13.7	16.0	20.6	22.9
77.5°	139.5	125.8	91.5	50.3	20.6	11.4	13.7	18.3	18.3
80°	107.5	96.0	68.6	34.3	13.7	6.9	11.4	13.7	13.7
82.5°	77.8	68.6	48.0	22.9	6.9	6.9	6.9	9.1	9.1
85°	52.6	45.7	29.7	13.7	4.6	4.6	4.6	4.6	4.6
87.5°	29.7	22.9	13.7	4.6	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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