

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: P837595

Luminaire Tested: HCSQ450D010-HM44560827-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837595
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-HM44560827-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

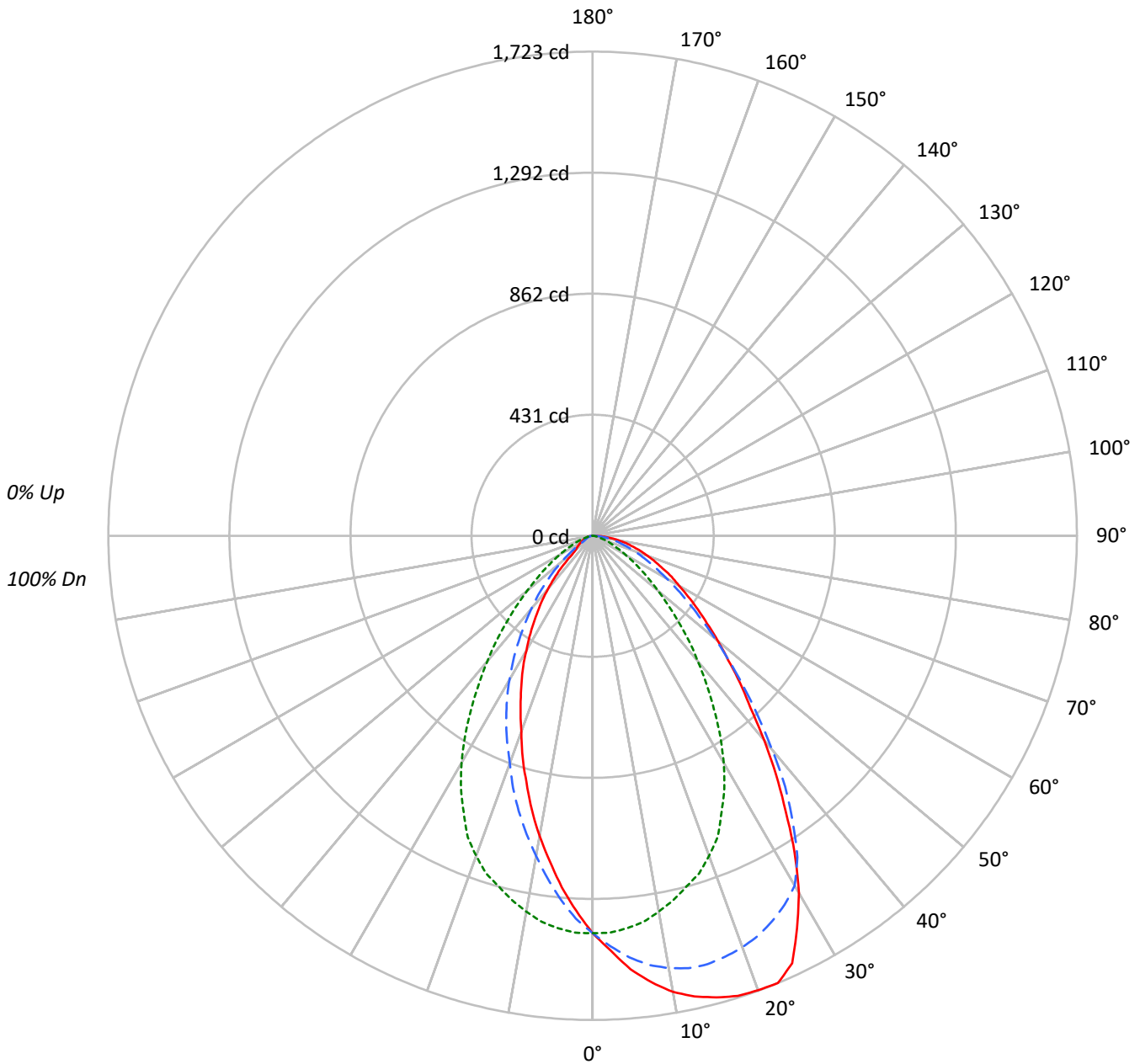
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2287.2 lumens
Efficiency: N/A
Efficacy: 46.0 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 (Ain): 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

TEST NUMBER: P837595
CATALOG NUMBER: HCSQ450D010-HM44560827-41SQLWW

Luminous Intensity Polar Plot





TEST NUMBER: P837595

CATALOG NUMBER: HCSQ450D010-HM44560827-41SQLWW

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°	136982	136982	136982	136982	136982
5°	150575	146481	136338	126390	122101
10°	162182	153693	133576	113843	106741
15°	170578	158312	129548	101787	91126
20°	177412	160660	124886	88701	76505
25°	179447	161650	115987	77827	64316
30°	164236	160869	104323	66189	52721
35°	141608	146824	88946	54318	41747
40°	119974	125551	73563	42871	31198
45°	101670	104149	58801	31880	20057
50°	87669	85544	45650	21461	12087
55°	77237	70464	34894	11857	10843
60°	68782	59075	26040	6607	9707
65°	62992	50567	19301	5983	8734
70°	58518	43733	14191	5693	8526
75°	54797	38291	9769	5240	7523
80°	52608	33585	6695	5579	6695
85°	51241	29011	4446	4446	4446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 105793 cd/sqm



TEST NUMBER: P837595

CATALOG NUMBER: HCSQ450D010-HM44560827-41SQLWW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.6	5.8
10°-20°	365.0	16.0
20°-30°	510.4	22.3
30°-40°	498.9	21.8
40°-50°	362.0	15.8
50°-60°	218.2	9.5
60°-70°	122.7	5.4
70°-80°	60.8	2.7
80°-90°	16.6	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°	1008.0	44.1
0°-40°	1506.9	65.9
0°-60°	2087.2	91.3
0°-90°	2287.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2287.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1414	1414	1414	1414	1414	
5°	1548	1506	1402	1300	1256	151
15°	1701	1578	1292	1015	909	482
25°	1679	1512	1085	728	602	757
35°	1197	1242	752	459	353	750
45°	742	760	429	233	146	575
55°	457	417	207	70	64	411
65°	275	221	84	26	38	275
75°	146	102	26	14	20	158
85°	46	26	4	4	4	51
90°	0	0	0	0	0	



TEST NUMBER: P837595

CATALOG NUMBER: HCSQ450D010-HM44560827-41SQLWW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1414.0	1414.0	1414.0	1414.0	1414.0	1414.0	1414.0	1414.0	1414.0
2.5°	1478.2	1474.2	1462.2	1438.1	1414.0	1385.9	1363.9	1347.8	1335.8
5°	1548.4	1540.4	1506.3	1456.1	1402.0	1347.8	1299.7	1271.6	1255.6
7.5°	1602.6	1588.5	1540.4	1470.2	1385.9	1303.7	1229.5	1185.4	1167.3
10°	1648.7	1624.6	1562.4	1468.2	1357.9	1249.6	1157.3	1105.1	1085.1
12.5°	1678.8	1652.7	1576.5	1466.2	1327.8	1195.4	1087.1	1018.9	998.8
15°	1700.8	1668.7	1578.5	1450.1	1291.7	1139.2	1014.9	934.7	908.6
17.5°	1716.9	1672.8	1570.5	1432.1	1259.6	1081.1	940.7	854.4	828.4
20°	1720.9	1672.8	1558.4	1406.0	1211.4	1022.9	860.4	774.2	742.1
22.5°	1722.9	1666.7	1540.4	1373.9	1161.3	956.7	794.3	704.0	669.9
25°	1678.8	1646.7	1512.3	1319.7	1085.1	884.5	728.1	629.8	601.7
27.5°	1574.5	1572.5	1480.2	1247.5	1014.9	806.3	659.9	565.6	539.5
30°	1468.2	1470.2	1438.1	1167.3	932.6	732.1	591.7	499.4	471.3
32.5°	1337.8	1357.9	1355.9	1077.1	844.4	661.9	525.5	439.2	411.2
35°	1197.4	1233.5	1241.5	974.8	752.1	581.7	459.3	381.1	353.0
37.5°	1071.0	1107.1	1125.2	884.5	665.9	511.5	397.1	328.9	300.9
40°	948.7	978.8	992.8	780.2	581.7	439.2	339.0	274.8	246.7
42.5°	830.4	874.5	870.5	692.0	507.4	381.1	286.8	222.6	194.6
45°	742.1	772.2	760.2	599.7	429.2	320.9	232.7	172.5	146.4
47.5°	653.9	675.9	657.9	521.5	363.0	264.8	188.5	126.4	98.3
50°	581.7	591.7	567.6	443.3	302.9	216.6	142.4	84.2	80.2
52.5°	513.5	519.5	485.4	377.1	250.7	174.5	104.3	66.2	70.2
55°	457.3	455.3	417.2	318.9	206.6	134.4	70.2	60.2	64.2
57.5°	403.1	397.1	359.0	264.8	168.5	104.3	42.1	52.1	56.2
60°	355.0	349.0	304.9	218.6	134.4	78.2	34.1	46.1	50.1
62.5°	316.9	302.9	258.7	180.5	108.3	56.2	30.1	40.1	44.1
65°	274.8	262.7	220.6	146.4	84.2	40.1	26.1	34.1	38.1
67.5°	240.7	226.6	186.5	120.3	68.2	28.1	24.1	30.1	34.1
70°	206.6	194.6	154.4	96.3	50.1	18.1	20.1	26.1	30.1
72.5°	178.5	164.5	128.4	76.2	38.1	14.0	18.1	22.1	24.1
75°	146.4	134.4	102.3	58.2	26.1	12.0	14.0	18.1	20.1
77.5°	122.3	110.3	80.2	44.1	18.1	10.0	12.0	16.0	16.0
80°	94.3	84.2	60.2	30.1	12.0	6.0	10.0	12.0	12.0
82.5°	68.2	60.2	42.1	20.1	6.0	6.0	6.0	8.0	8.0
85°	46.1	40.1	26.1	12.0	4.0	4.0	4.0	4.0	4.0
87.5°	26.1	20.1	12.0	4.0	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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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

Scaled Data Report





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

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

Scaled Data Report



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

Scaled Data Report



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

Scaled Data Report



(END OF REPORT)