

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: P837560

Luminaire Tested: HCSQ445D010-HM44560830-41SQLWW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837560
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: HCSQ445D010-HM44560830-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

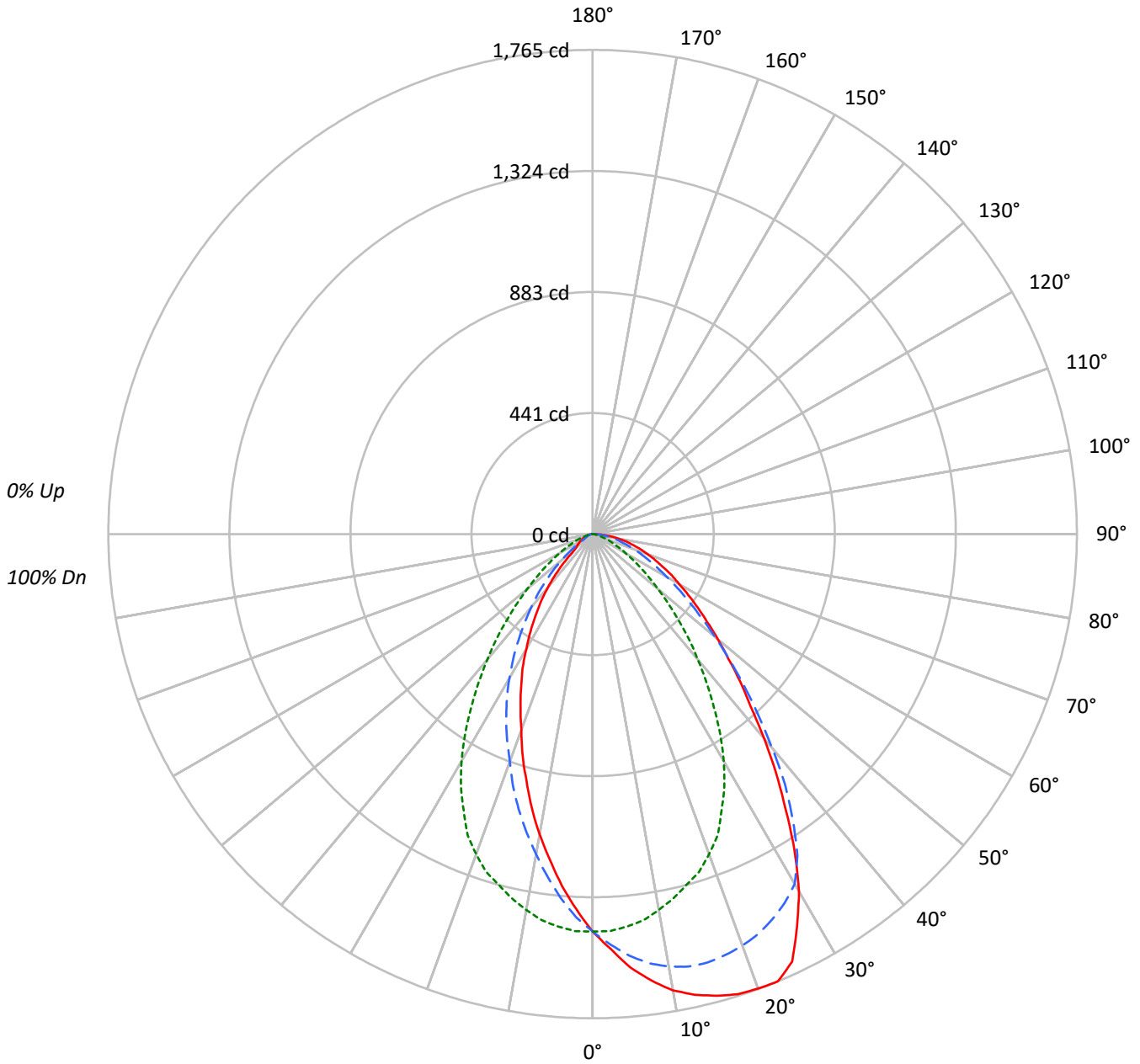
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2343.1 lumens
Efficiency: N/A
Efficacy: 51.0 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): 45.9
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

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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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89					89			
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78					78			
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69					69			
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62					62			
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55					55			
6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50					50			
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45					45			
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42					42			
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38					38			
10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35					35			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	140334	140334	140334	140334	140334
5°	154261	150059	139674	129482	125087
10°	166147	157451	136842	116627	109348
15°	174750	162184	132707	104274	93353
20°	181752	164587	127948	90876	78381
25°	183830	165605	118819	79729	65887
30°	168252	164795	106873	67800	54018
35°	145073	150419	91122	55643	42764
40°	122908	128624	75359	43908	31957
45°	104163	106684	60240	32648	20550
50°	89809	87639	46766	21989	12388
55°	79128	72187	35739	12144	11113
60°	70467	60508	26679	6762	9959
65°	64527	51805	19782	6120	8940
70°	59935	44809	14559	5807	8724
75°	56145	39226	9994	5390	7673
80°	53892	34366	6862	5746	6862
85°	52575	29678	4557	4557	4557

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 108383 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.8	5.8
10°-20°	374.0	16.0
20°-30°	522.9	22.3
30°-40°	511.1	21.8
40°-50°	370.9	15.8
50°-60°	223.6	9.5
60°-70°	125.7	5.4
70°-80°	62.2	2.7
80°-90°	17.0	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°	1032.7	44.1
0°-40°	1543.8	65.9
0°-60°	2138.2	91.3
0°-90°	2343.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2343.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1449	1449	1449	1449	1449	
5°	1586	1543	1436	1332	1286	154
15°	1742	1617	1323	1040	931	493
25°	1720	1549	1112	746	616	775
35°	1227	1272	770	470	362	768
45°	760	779	440	238	150	589
55°	468	427	212	72	66	421
65°	282	226	86	27	39	282
75°	150	105	27	14	20	161
85°	47	27	4	4	4	52
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°	1448.6	1448.6	1448.6	1448.6	1448.6	1448.6	1448.6	1448.6	1448.6
2.5°	1514.3	1510.2	1497.9	1473.2	1448.6	1419.8	1397.2	1380.8	1368.5
5°	1586.3	1578.0	1543.1	1491.7	1436.3	1380.8	1331.5	1302.7	1286.3
7.5°	1641.7	1627.3	1578.0	1506.1	1419.8	1335.6	1259.5	1214.3	1195.9
10°	1689.0	1664.3	1600.6	1504.1	1391.1	1280.1	1185.6	1132.2	1111.6
12.5°	1719.8	1693.1	1615.0	1502.0	1360.2	1224.6	1113.7	1043.8	1023.3
15°	1742.4	1709.5	1617.1	1485.6	1323.2	1167.1	1039.7	957.5	930.8
17.5°	1758.8	1713.6	1608.9	1467.1	1290.4	1107.5	963.7	875.3	848.6
20°	1763.0	1713.6	1596.5	1440.4	1241.1	1047.9	881.5	793.1	760.3
22.5°	1765.0	1707.5	1578.0	1407.5	1189.7	980.1	813.7	721.2	686.3
25°	1719.8	1686.9	1549.3	1352.0	1111.6	906.1	745.9	645.2	616.4
27.5°	1613.0	1610.9	1516.4	1278.0	1039.7	826.0	676.0	579.4	552.7
30°	1504.1	1506.1	1473.2	1195.9	955.4	750.0	606.1	511.6	482.9
32.5°	1370.5	1391.1	1389.0	1103.4	865.0	678.1	538.3	450.0	421.2
35°	1226.7	1263.7	1271.9	998.6	770.5	595.9	470.5	390.4	361.6
37.5°	1097.2	1134.2	1152.7	906.1	682.2	524.0	406.8	337.0	308.2
40°	971.9	1002.7	1017.1	799.3	595.9	450.0	347.2	281.5	252.7
42.5°	850.7	895.9	891.8	708.9	519.8	390.4	293.8	228.1	199.3
45°	760.3	791.1	778.7	614.4	439.7	328.8	238.3	176.7	150.0
47.5°	669.8	692.4	674.0	534.2	371.9	271.2	193.1	129.4	100.7
50°	595.9	606.1	581.5	454.1	310.3	221.9	145.9	86.3	82.2
52.5°	526.0	532.2	497.2	386.3	256.8	178.8	106.8	67.8	71.9
55°	468.5	466.4	427.4	326.7	211.6	137.7	71.9	61.6	65.8
57.5°	413.0	406.8	367.8	271.2	172.6	106.8	43.1	53.4	57.5
60°	363.7	357.5	312.3	224.0	137.7	80.1	34.9	47.3	51.4
62.5°	324.6	310.3	265.1	184.9	111.0	57.5	30.8	41.1	45.2
65°	281.5	269.2	226.0	150.0	86.3	41.1	26.7	34.9	39.0
67.5°	246.6	232.2	191.1	123.3	69.9	28.8	24.7	30.8	34.9
70°	211.6	199.3	158.2	98.6	51.4	18.5	20.5	26.7	30.8
72.5°	182.9	168.5	131.5	78.1	39.0	14.4	18.5	22.6	24.7
75°	150.0	137.7	104.8	59.6	26.7	12.3	14.4	18.5	20.5
77.5°	125.3	113.0	82.2	45.2	18.5	10.3	12.3	16.4	16.4
80°	96.6	86.3	61.6	30.8	12.3	6.2	10.3	12.3	12.3
82.5°	69.9	61.6	43.1	20.5	6.2	6.2	6.2	8.2	8.2
85°	47.3	41.1	26.7	12.3	4.1	4.1	4.1	4.1	4.1
87.5°	26.7	20.5	12.3	4.1	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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