

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: P837581

Luminaire Tested: HCSQ445D010-HM44560930-41SQMB

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837581
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ445D010-HM44560930-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

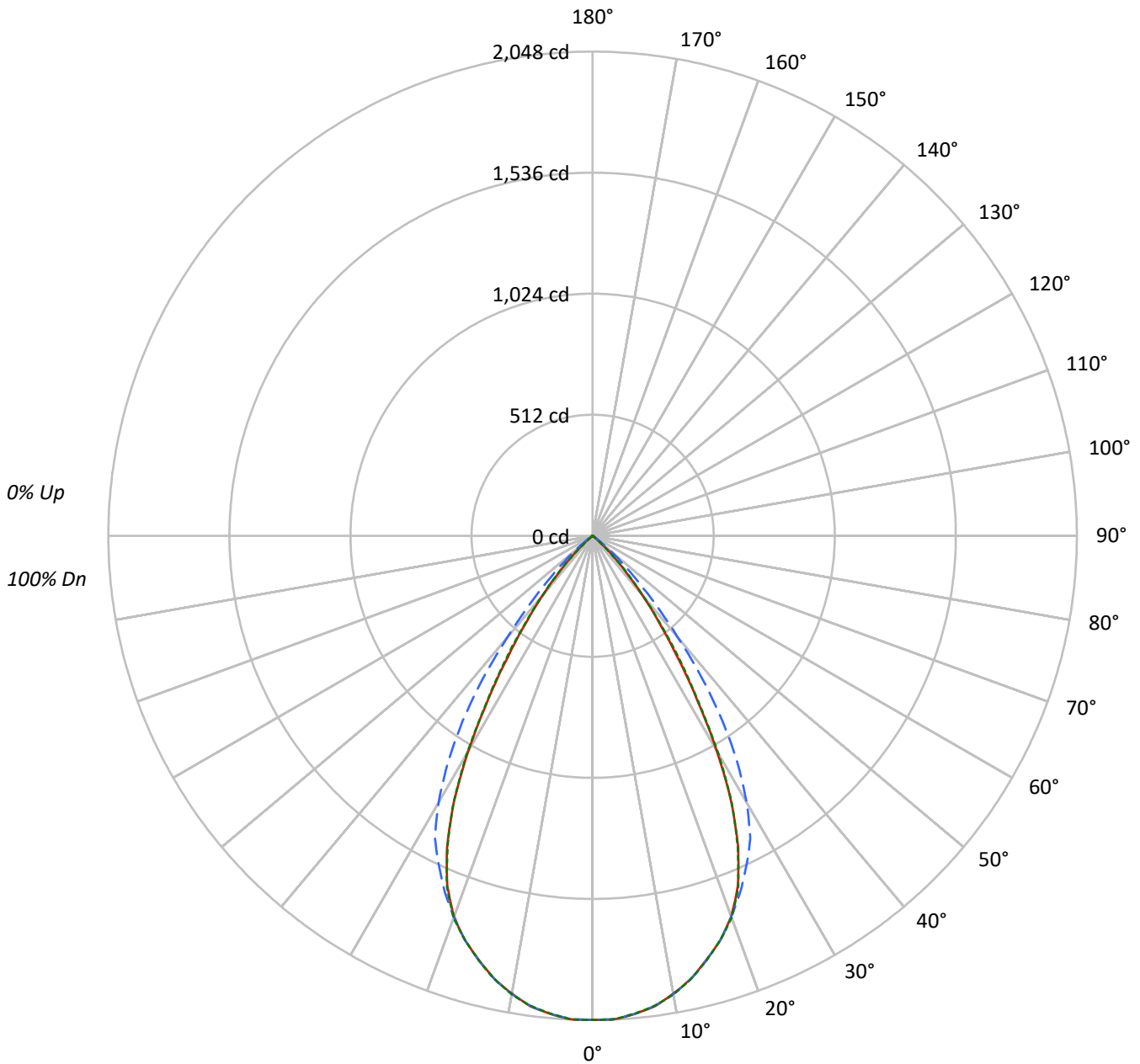
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2045.6 lumens
Efficiency: N/A
Efficacy: 44.6 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99
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 (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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87								
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74								
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69								
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64								
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60								
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56								
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52								
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	198391	198391	198391
5°	197486	197486	197301
10°	193415	193602	193789
15°	186334	186525	186525
20°	176649	176845	177237
25°	155750	164472	155140
30°	117511	145779	118574
35°	73690	113450	76161
40°	41555	70629	41555
45°	17440	35662	17180
50°	1432	13745	1718
55°	642	2888	642
60°	736	368	736
65°	436	436	436
70°	538	538	538
75°	711	711	711
80°	0	1060	1060
85°	0	2112	2112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 35662 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.9	9.4
10°-20°	522.1	25.5
20°-30°	677.3	33.1
30°-40°	481.5	23.5
40°-50°	156.2	7.6
50°-60°	11.3	0.6
60°-70°	1.9	0.1
70°-80°	2.0	0.1
80°-90°	1.3	0.1
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°	1391.4	68.0
0°-40°	1873.0	91.6
0°-60°	2040.4	99.7
0°-90°	2045.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2045.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2048	2048	2048	2048	2048	
5°	2031	2033	2031	2031	2029	192
15°	1858	1864	1860	1864	1860	522
25°	1457	1495	1539	1503	1451	652
35°	623	737	959	745	644	399
45°	127	180	260	184	125	106
55°	4	4	17	4	4	4
65°	2	2	2	2	2	2
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2047.9	2047.9	2047.9	2047.9	2047.9
2.5°	2047.9	2047.9	2046.0	2046.0	2047.9
5°	2030.8	2032.7	2030.8	2030.8	2028.9
7.5°	2008.0	2008.0	2006.1	2006.1	2006.1
10°	1966.2	1968.1	1968.1	1968.1	1970.0
12.5°	1920.6	1920.6	1920.6	1920.6	1920.6
15°	1857.9	1863.6	1859.8	1863.6	1859.8
17.5°	1795.2	1795.2	1793.3	1797.1	1793.3
20°	1713.5	1713.5	1715.4	1719.2	1719.2
22.5°	1605.2	1624.2	1631.8	1628.0	1609.0
25°	1457.1	1495.1	1538.7	1502.6	1451.4
27.5°	1270.9	1343.1	1443.8	1354.5	1274.7
30°	1050.5	1158.8	1303.2	1162.6	1060.0
32.5°	822.6	947.9	1139.8	957.4	830.2
35°	623.1	737.1	959.3	744.7	644.0
37.5°	459.7	564.2	761.8	568.0	473.0
40°	328.6	404.6	558.5	412.2	328.6
42.5°	210.9	286.9	393.2	288.8	220.4
45°	127.3	180.5	260.3	184.3	125.4
47.5°	57.0	102.6	161.5	106.4	57.0
50°	9.5	41.8	91.2	43.7	11.4
52.5°	5.7	7.6	43.7	7.6	5.7
55°	3.8	3.8	17.1	3.8	3.8
57.5°	3.8	3.8	3.8	3.8	3.8
60°	3.8	1.9	1.9	1.9	3.8
62.5°	1.9	1.9	1.9	1.9	1.9
65°	1.9	1.9	1.9	1.9	1.9
67.5°	1.9	1.9	1.9	1.9	1.9
70°	1.9	1.9	1.9	1.9	1.9
72.5°	1.9	1.9	1.9	1.9	1.9
75°	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9
80°	0.0	1.9	1.9	1.9	1.9
82.5°	0.0	1.9	1.9	1.9	1.9
85°	0.0	0.0	1.9	1.9	1.9
87.5°	0.0	0.0	1.9	1.9	1.9
90°	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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