

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: P837582

Luminaire Tested: HCSQ445D010-HM44560930-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837582
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ445D010-HM44560930-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

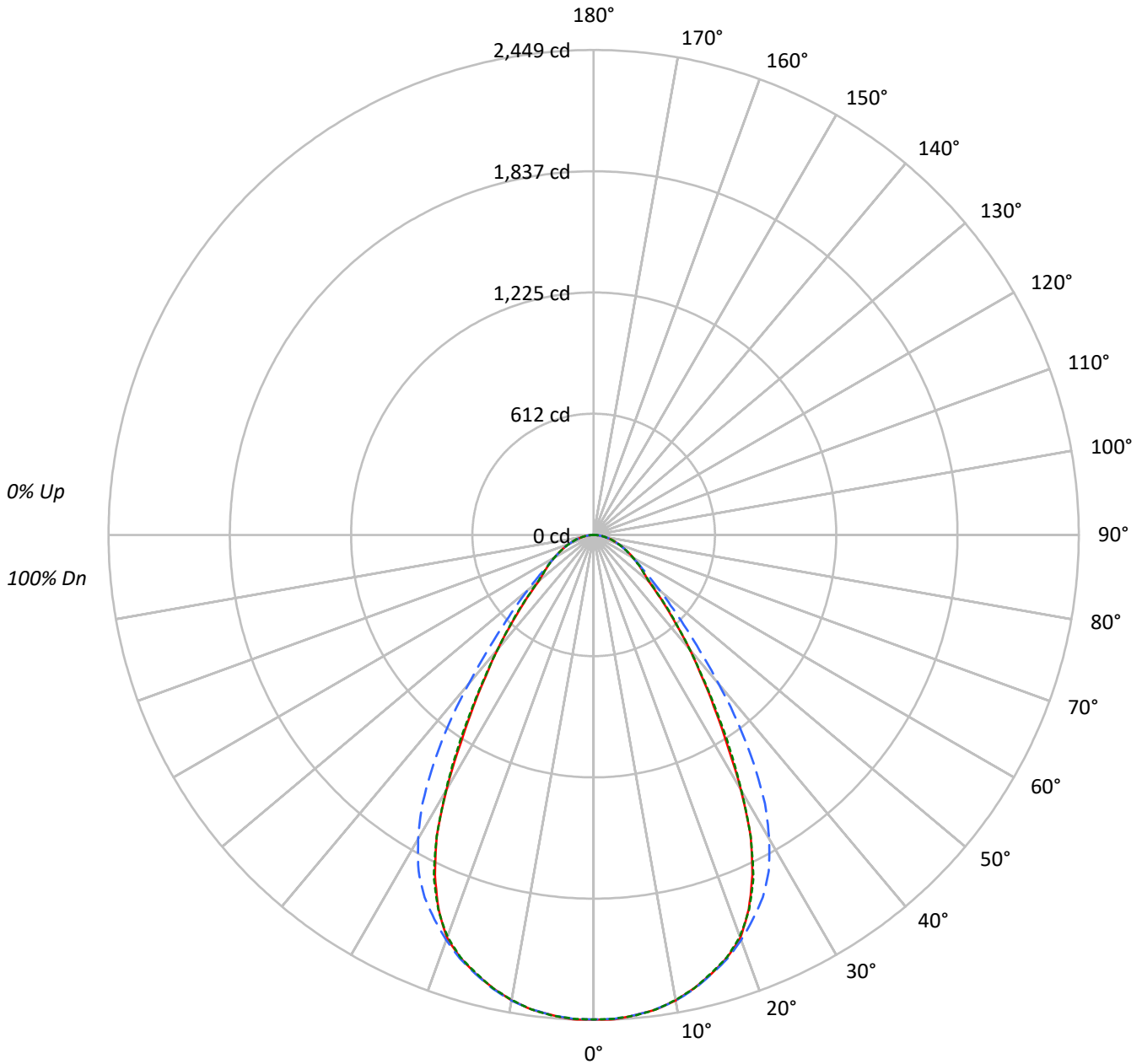
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3551.3 lumens
Efficiency: N/A
Efficacy: 77.4 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	237064	237064	237064
5°	236676	236676	236861
10°	234740	234927	234553
15°	230172	230363	229791
20°	223268	224443	222484
25°	202632	215843	204053
30°	166328	198231	166965
35°	125028	166408	126825
40°	95226	124072	94986
45°	71118	88052	72420
50°	54166	65620	55311
55°	48811	51379	48811
60°	44582	44214	44214
65°	40527	40527	40527
70°	37700	37162	37162
75°	34885	34173	34885
80°	31799	30739	31799
85°	27455	27455	27455

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 88052 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.8	6.5
10°-20°	646.1	18.2
20°-30°	888.6	25.0
30°-40°	756.4	21.3
40°-50°	456.9	12.9
50°-60°	269.3	7.6
60°-70°	176.6	5.0
70°-80°	97.9	2.8
80°-90°	28.6	0.8
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°	1765.5	49.7
0°-40°	2521.9	71.0
0°-60°	3248.1	91.5
0°-90°	3551.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3551.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2447	2447	2447	2447	2447	
5°	2434	2436	2434	2432	2436	231
15°	2295	2301	2297	2295	2291	646
25°	1896	1955	2019	1958	1909	857
35°	1057	1164	1407	1196	1072	669
45°	519	574	643	580	529	408
55°	289	295	304	295	289	260
65°	177	179	177	177	177	177
75°	93	93	91	91	93	99
85°	25	25	25	25	25	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2447.1	2447.1	2447.1	2447.1	2447.1
2.5°	2449.0	2443.3	2445.2	2443.3	2445.2
5°	2433.8	2435.7	2433.8	2431.9	2435.7
7.5°	2416.7	2414.8	2414.8	2412.9	2416.7
10°	2386.3	2382.5	2388.2	2384.4	2384.4
12.5°	2344.5	2350.2	2348.3	2348.3	2344.5
15°	2295.0	2300.7	2296.9	2295.0	2291.2
17.5°	2238.0	2241.8	2243.7	2236.1	2236.1
20°	2165.7	2173.3	2177.1	2163.8	2158.1
22.5°	2045.9	2080.2	2101.1	2078.3	2049.7
25°	1895.7	1954.7	2019.3	1958.5	1909.0
27.5°	1715.1	1798.8	1914.7	1812.1	1715.1
30°	1486.9	1610.5	1772.1	1623.8	1492.6
32.5°	1251.1	1382.3	1608.6	1405.2	1277.8
35°	1057.2	1163.7	1407.1	1196.0	1072.4
37.5°	889.9	981.1	1196.0	1002.1	899.4
40°	753.0	825.2	981.1	834.7	751.1
42.5°	621.8	690.2	794.8	699.7	629.4
45°	519.1	574.2	642.7	579.9	528.6
47.5°	431.6	477.3	526.7	477.3	437.3
50°	359.4	395.5	435.4	395.5	367.0
52.5°	321.3	332.8	359.4	334.7	321.3
55°	289.0	294.7	304.2	294.7	289.0
57.5°	258.6	262.4	260.5	260.5	258.6
60°	230.1	232.0	228.2	230.1	228.2
62.5°	203.5	203.5	199.7	203.5	201.6
65°	176.8	178.7	176.8	176.8	176.8
67.5°	154.0	154.0	152.1	154.0	154.0
70°	133.1	133.1	131.2	133.1	131.2
72.5°	112.2	112.2	110.3	110.3	110.3
75°	93.2	93.2	91.3	91.3	93.2
77.5°	74.2	74.2	72.3	74.2	74.2
80°	57.0	57.0	55.1	57.0	57.0
82.5°	39.9	39.9	39.9	41.8	41.8
85°	24.7	24.7	24.7	24.7	24.7
87.5°	11.4	11.4	11.4	11.4	13.3
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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