

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: P837592

Luminaire Tested: HCSQ445D010-HM44560940-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837592
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-HM44560940-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

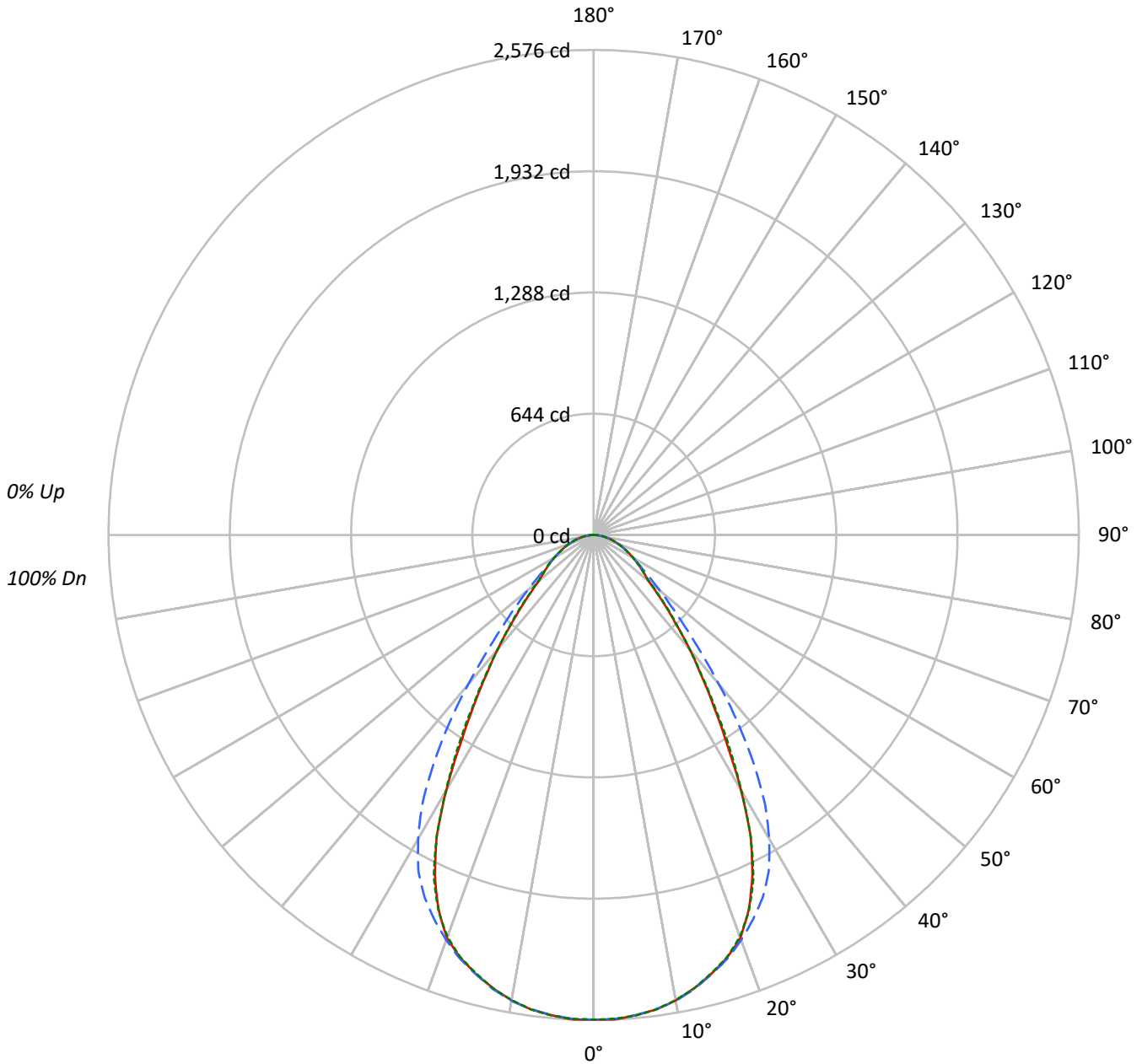
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3736.0 lumens
Efficiency: N/A
Efficacy: 81.4 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 (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									
RC	80									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°	249406	249406	249406
5°	248997	248997	249192
10°	246958	247154	246761
15°	242147	242348	241746
20°	234886	236123	234062
25°	213182	227078	214678
30°	174986	208545	175657
35°	131532	175065	133424
40°	100170	130534	99918
45°	74817	92627	76187
50°	56984	69041	58190
55°	51362	54064	51362
60°	46888	46500	46500
65°	42636	42636	42636
70°	39654	39088	39088
75°	36681	35933	36681
80°	33473	32357	33473
85°	28900	28900	28900

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 92627 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.8	6.5
10°-20°	679.7	18.2
20°-30°	934.8	25.0
30°-40°	795.8	21.3
40°-50°	480.7	12.9
50°-60°	283.3	7.6
60°-70°	185.8	5.0
70°-80°	103.0	2.8
80°-90°	30.1	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°	1857.3	49.7
0°-40°	2653.1	71.0
0°-60°	3417.1	91.5
0°-90°	3736.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3736.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2574	2574	2574	2574	2574	
5°	2560	2562	2560	2558	2562	243
15°	2414	2420	2416	2414	2410	679
25°	1994	2056	2124	2060	2008	901
35°	1112	1224	1480	1258	1128	704
45°	546	604	676	610	556	429
55°	304	310	320	310	304	273
65°	186	188	186	186	186	186
75°	98	98	96	96	98	104
85°	26	26	26	26	26	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2574.5	2574.5	2574.5	2574.5	2574.5
2.5°	2576.5	2570.5	2572.5	2570.5	2572.5
5°	2560.5	2562.5	2560.5	2558.5	2562.5
7.5°	2542.5	2540.5	2540.5	2538.5	2542.5
10°	2510.5	2506.4	2512.5	2508.5	2508.5
12.5°	2466.4	2472.4	2470.4	2470.4	2466.4
15°	2414.4	2420.4	2416.4	2414.4	2410.4
17.5°	2354.4	2358.4	2360.4	2352.4	2352.4
20°	2278.4	2286.4	2290.4	2276.4	2270.4
22.5°	2152.4	2188.4	2210.4	2186.4	2156.4
25°	1994.4	2056.4	2124.4	2060.4	2008.4
27.5°	1804.3	1892.3	2014.4	1906.3	1804.3
30°	1564.3	1694.3	1864.3	1708.3	1570.3
32.5°	1316.2	1454.3	1692.3	1478.3	1344.2
35°	1112.2	1224.2	1480.3	1258.2	1128.2
37.5°	936.2	1032.2	1258.2	1054.2	946.2
40°	792.1	868.2	1032.2	878.2	790.1
42.5°	654.1	726.1	836.2	736.1	662.1
45°	546.1	604.1	676.1	610.1	556.1
47.5°	454.1	502.1	554.1	502.1	460.1
50°	378.1	416.1	458.1	416.1	386.1
52.5°	338.1	350.1	378.1	352.1	338.1
55°	304.1	310.1	320.1	310.1	304.1
57.5°	272.0	276.0	274.0	274.0	272.0
60°	242.0	244.0	240.0	242.0	240.0
62.5°	214.0	214.0	210.0	214.0	212.0
65°	186.0	188.0	186.0	186.0	186.0
67.5°	162.0	162.0	160.0	162.0	162.0
70°	140.0	140.0	138.0	140.0	138.0
72.5°	118.0	118.0	116.0	116.0	116.0
75°	98.0	98.0	96.0	96.0	98.0
77.5°	78.0	78.0	76.0	78.0	78.0
80°	60.0	60.0	58.0	60.0	60.0
82.5°	42.0	42.0	42.0	44.0	44.0
85°	26.0	26.0	26.0	26.0	26.0
87.5°	12.0	12.0	12.0	12.0	14.0
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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