

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: P837552

Luminaire Tested: HCSQ440D010-HM43040940-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837552
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: HCSQ440D010-HM43040940-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

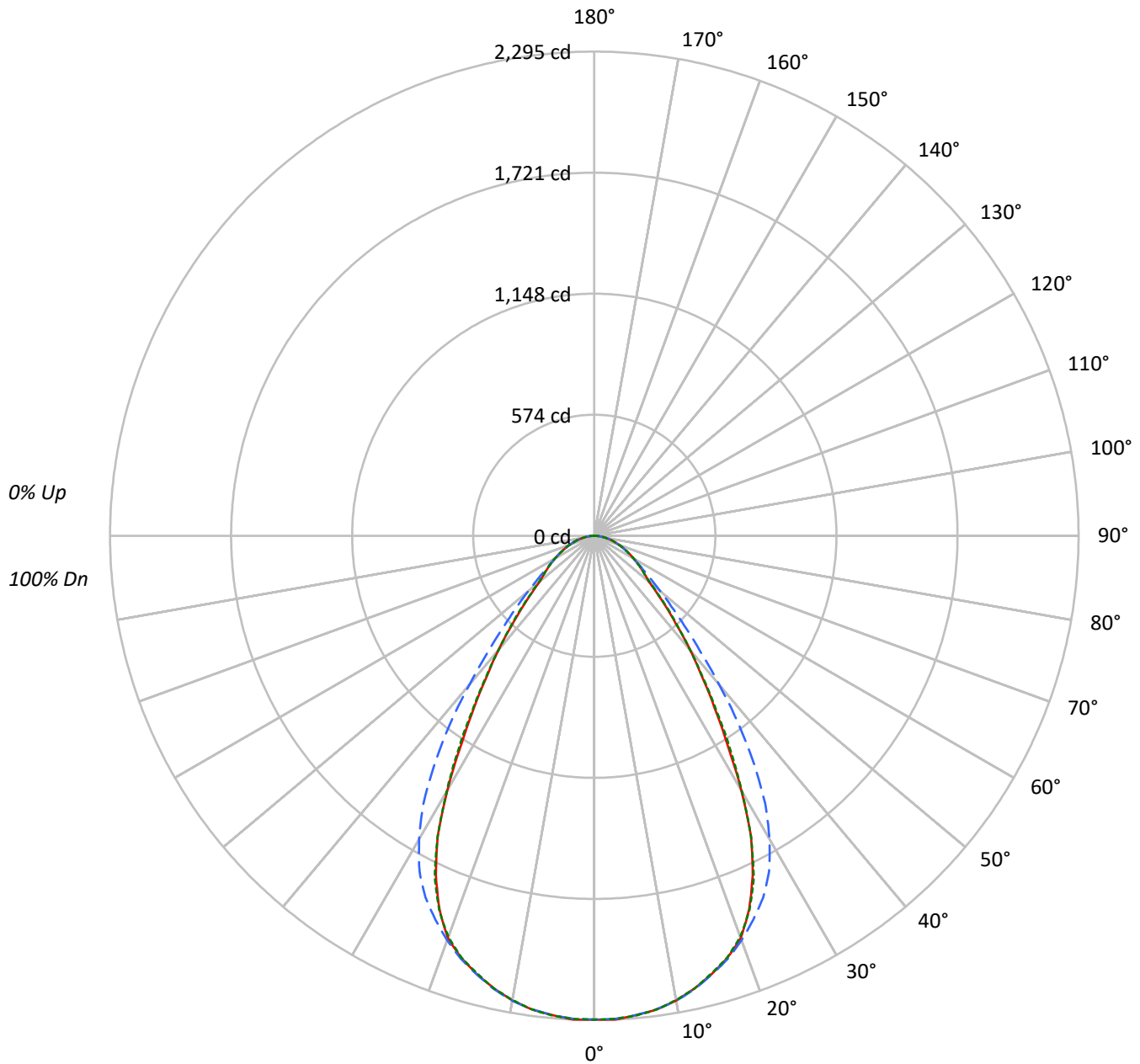
Lumens per Lamp: N/A
Luminaire Lumens: 3328.0 lumens
Efficiency: N/A
Efficacy: 81.2 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 41
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	222164	222164	222164
5°	221797	221797	221973
10°	219985	220152	219808
15°	215700	215880	215349
20°	209237	210330	208495
25°	189890	202279	191227
30°	155869	185769	156473
35°	117163	155942	118854
40°	89232	116269	89004
45°	66652	82517	67871
50°	50760	61490	51830
55°	45737	48153	45737
60°	41773	41424	41424
65°	37983	37983	37983
70°	35321	34811	34811
75°	32676	32002	32676
80°	29847	28843	29847
85°	25787	25787	25787

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 82517 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	216.3	6.5
10°-20°	605.5	18.2
20°-30°	832.7	25.0
30°-40°	708.9	21.3
40°-50°	428.2	12.9
50°-60°	252.3	7.6
60°-70°	165.5	5.0
70°-80°	91.8	2.8
80°-90°	26.9	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°	1654.5	49.7
0°-40°	2363.4	71.0
0°-60°	3043.9	91.5
0°-90°	3328.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3328.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2293	2293	2293	2293	2293	
5°	2281	2283	2281	2279	2283	216
15°	2151	2156	2152	2151	2147	605
25°	1776	1832	1892	1835	1789	803
35°	991	1090	1319	1121	1005	627
45°	486	538	602	544	495	382
55°	271	276	285	276	271	244
65°	166	168	166	166	166	166
75°	87	87	86	86	87	93
85°	23	23	23	23	23	27
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2293.3	2293.3	2293.3	2293.3	2293.3
2.5°	2295.1	2289.7	2291.5	2289.7	2291.5
5°	2280.8	2282.6	2280.8	2279.0	2282.6
7.5°	2264.8	2263.0	2263.0	2261.2	2264.8
10°	2236.3	2232.7	2238.0	2234.5	2234.5
12.5°	2197.1	2202.4	2200.6	2200.6	2197.1
15°	2150.7	2156.1	2152.5	2150.7	2147.2
17.5°	2097.3	2100.8	2102.6	2095.5	2095.5
20°	2029.6	2036.7	2040.2	2027.8	2022.4
22.5°	1917.3	1949.4	1969.0	1947.6	1920.9
25°	1776.5	1831.8	1892.4	1835.3	1789.0
27.5°	1607.3	1685.7	1794.3	1698.1	1607.3
30°	1393.4	1509.2	1660.7	1521.7	1398.8
32.5°	1172.5	1295.4	1507.5	1316.8	1197.4
35°	990.7	1090.5	1318.6	1120.8	1005.0
37.5°	833.9	919.4	1120.8	939.0	842.8
40°	705.6	773.3	919.4	782.2	703.8
42.5°	582.7	646.8	744.8	655.7	589.8
45°	486.5	538.1	602.3	543.5	495.4
47.5°	404.5	447.3	493.6	447.3	409.8
50°	336.8	370.6	408.0	370.6	343.9
52.5°	301.1	311.8	336.8	313.6	301.1
55°	270.8	276.2	285.1	276.2	270.8
57.5°	242.3	245.9	244.1	244.1	242.3
60°	215.6	217.4	213.8	215.6	213.8
62.5°	190.7	190.7	187.1	190.7	188.9
65°	165.7	167.5	165.7	165.7	165.7
67.5°	144.3	144.3	142.6	144.3	144.3
70°	124.7	124.7	122.9	124.7	122.9
72.5°	105.1	105.1	103.3	103.3	103.3
75°	87.3	87.3	85.5	85.5	87.3
77.5°	69.5	69.5	67.7	69.5	69.5
80°	53.5	53.5	51.7	53.5	53.5
82.5°	37.4	37.4	37.4	39.2	39.2
85°	23.2	23.2	23.2	23.2	23.2
87.5°	10.7	10.7	10.7	10.7	12.5
90°	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°







(END OF REPORT)