

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: P837302

Luminaire Tested: HCSQ410D010-HM40525930-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837302
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: HCSQ410D010-HM40525930-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

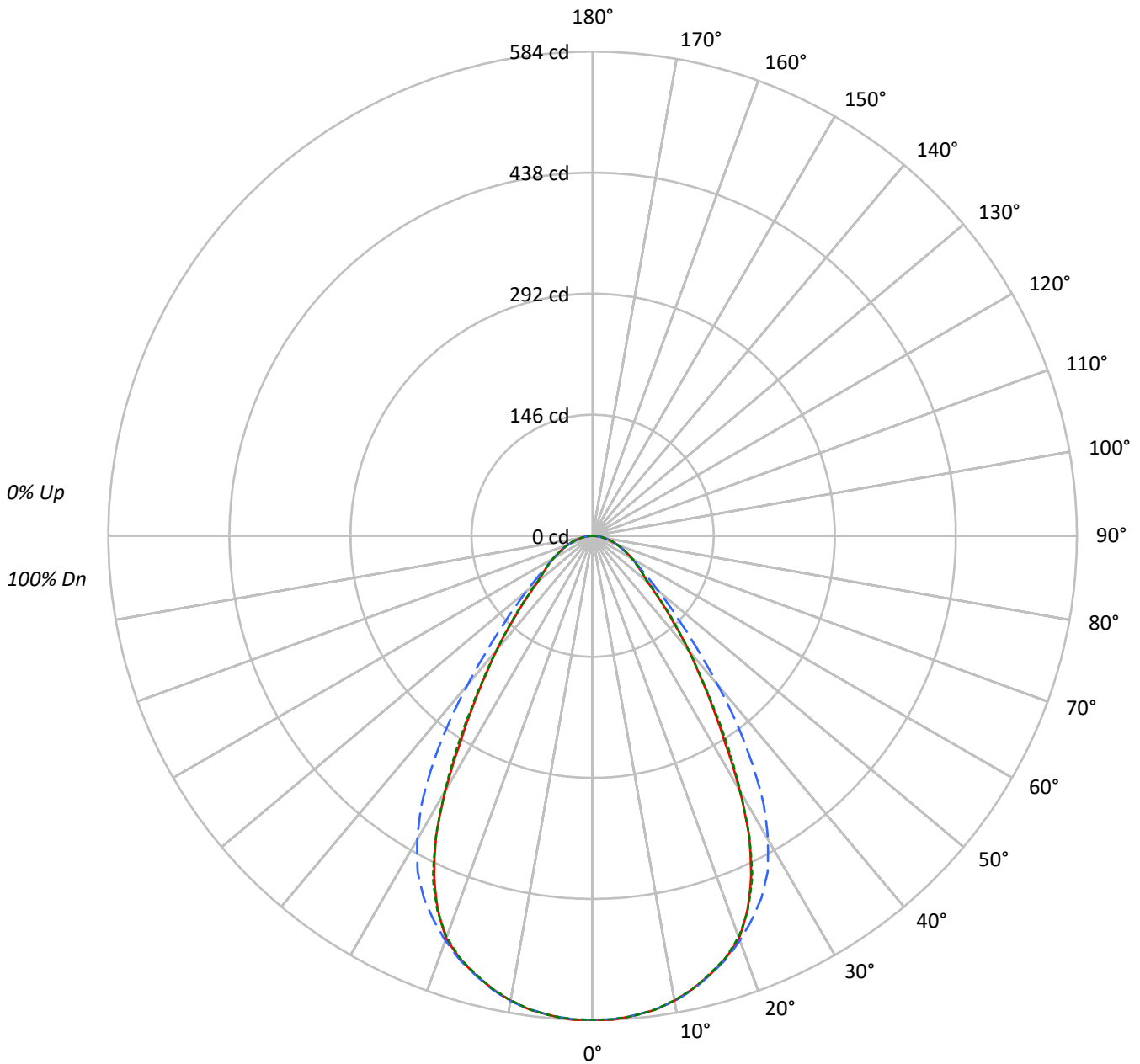
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 847.3 lumens
Efficiency: N/A
Efficacy: 85.6 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): 9.9
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									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°	56566	56566	56566
5°	56470	56470	56509
10°	56002	56051	55963
15°	54920	54960	54830
20°	53268	53546	53082
25°	48346	51500	48688
30°	39689	47295	39834
35°	29826	39701	30264
40°	22713	29605	22662
45°	16961	21002	17276
50°	12916	15659	13202
55°	11654	12262	11654
60°	10637	10540	10540
65°	9673	9673	9673
70°	9007	8866	8866
75°	8309	8160	8309
80°	7587	7364	7587
85°	6558	6558	6558

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 21002 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.1	6.5
10°-20°	154.2	18.2
20°-30°	212.0	25.0
30°-40°	180.5	21.3
40°-50°	109.0	12.9
50°-60°	64.3	7.6
60°-70°	42.1	5.0
70°-80°	23.4	2.8
80°-90°	6.8	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°	421.2	49.7
0°-40°	601.7	71.0
0°-60°	775.0	91.5
0°-90°	847.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	847.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	584	584	584	584	584	
5°	581	581	581	580	581	55
15°	548	549	548	548	547	154
25°	452	466	482	467	456	204
35°	252	278	336	285	256	160
45°	124	137	153	138	126	97
55°	69	70	73	70	69	62
65°	42	43	42	42	42	42
75°	22	22	22	22	22	24
85°	6	6	6	6	6	7
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	583.9	583.9	583.9	583.9	583.9
2.5°	584.3	583.0	583.4	583.0	583.4
5°	580.7	581.1	580.7	580.2	581.1
7.5°	576.6	576.1	576.1	575.7	576.6
10°	569.3	568.4	569.8	568.9	568.9
12.5°	559.4	560.7	560.3	560.3	559.4
15°	547.6	548.9	548.0	547.6	546.7
17.5°	534.0	534.9	535.3	533.5	533.5
20°	516.7	518.5	519.4	516.3	514.9
22.5°	488.1	496.3	501.3	495.8	489.0
25°	452.3	466.4	481.8	467.3	455.5
27.5°	409.2	429.2	456.8	432.3	409.2
30°	354.8	384.2	422.8	387.4	356.1
32.5°	298.5	329.8	383.8	335.3	304.9
35°	252.2	277.6	335.7	285.4	255.9
37.5°	212.3	234.1	285.4	239.1	214.6
40°	179.6	196.9	234.1	199.2	179.2
42.5°	148.3	164.7	189.6	166.9	150.2
45°	123.8	137.0	153.3	138.4	126.1
47.5°	103.0	113.9	125.7	113.9	104.3
50°	85.7	94.4	103.9	94.4	87.6
52.5°	76.7	79.4	85.7	79.8	76.7
55°	69.0	70.3	72.6	70.3	69.0
57.5°	61.7	62.6	62.2	62.2	61.7
60°	54.9	55.3	54.4	54.9	54.4
62.5°	48.5	48.5	47.6	48.5	48.1
65°	42.2	42.6	42.2	42.2	42.2
67.5°	36.7	36.7	36.3	36.7	36.7
70°	31.8	31.8	31.3	31.8	31.3
72.5°	26.8	26.8	26.3	26.3	26.3
75°	22.2	22.2	21.8	21.8	22.2
77.5°	17.7	17.7	17.2	17.7	17.7
80°	13.6	13.6	13.2	13.6	13.6
82.5°	9.5	9.5	9.5	10.0	10.0
85°	5.9	5.9	5.9	5.9	5.9
87.5°	2.7	2.7	2.7	2.7	3.2
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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