

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: P837307

Luminaire Tested: HCSQ410D010-HM40525935-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837307
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-HM40525935-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

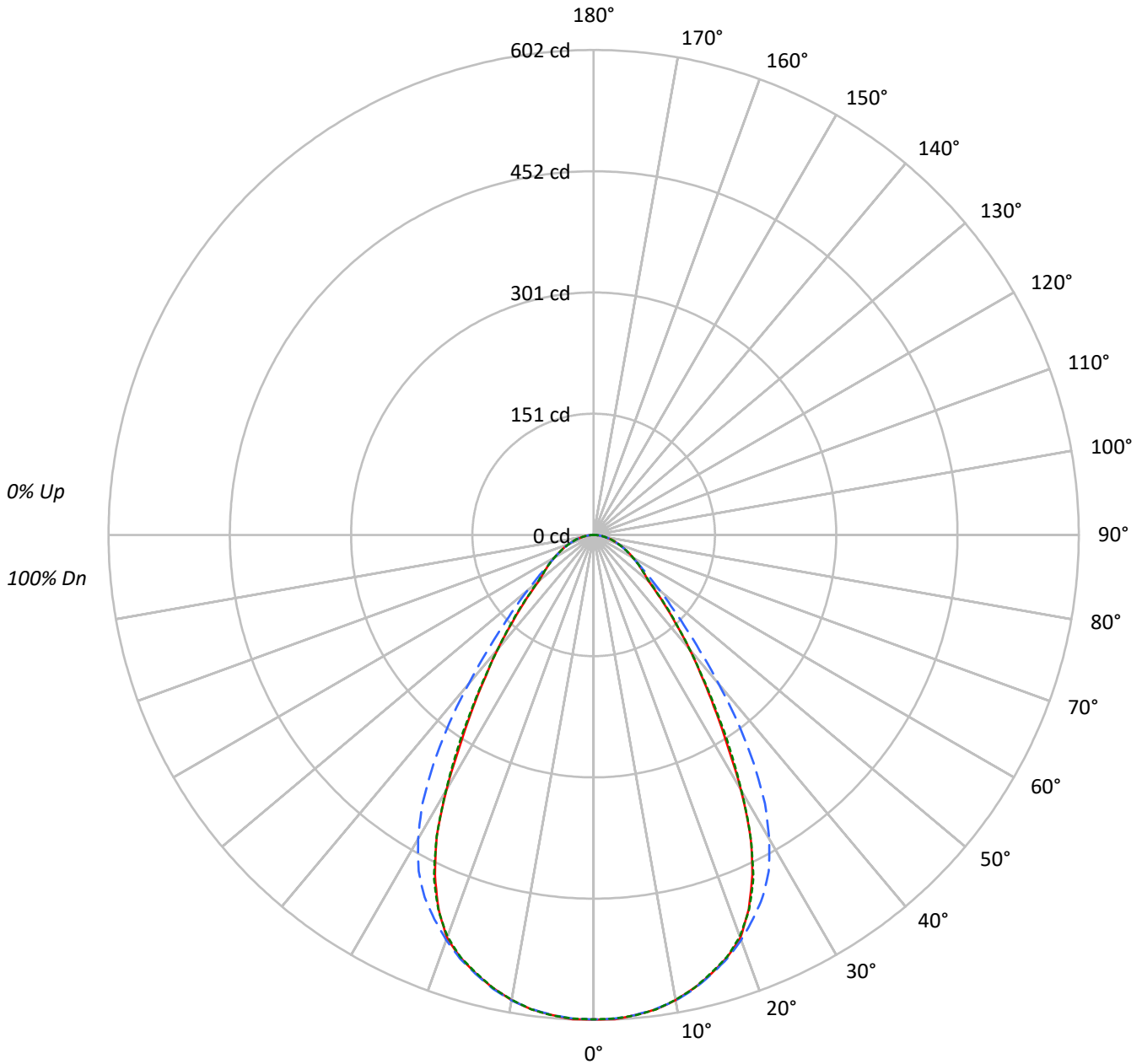
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 872.7 lumens
Efficiency: N/A
Efficacy: 88.2 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): 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					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°	58261	58261	58261
5°	58163	58163	58211
10°	57684	57733	57635
15°	56565	56615	56465
20°	54866	55155	54670
25°	49800	53039	50142
30°	40874	48716	41031
35°	30725	40895	31162
40°	23395	30490	23345
45°	17482	21633	17797
50°	13308	16126	13594
55°	11992	12634	11992
60°	10947	10869	10869
65°	9971	9971	9971
70°	9262	9120	9120
75°	8571	8384	8571
80°	7810	7587	7810
85°	6780	6780	6780

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 21633 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.7	6.5
10°-20°	158.8	18.2
20°-30°	218.4	25.0
30°-40°	185.9	21.3
40°-50°	112.3	12.9
50°-60°	66.2	7.6
60°-70°	43.4	5.0
70°-80°	24.1	2.8
80°-90°	7.0	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°	433.9	49.7
0°-40°	619.7	71.0
0°-60°	798.2	91.5
0°-90°	872.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	872.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	601	601	601	601	601	
5°	598	599	598	598	599	57
15°	564	565	564	564	563	159
25°	466	480	496	481	469	211
35°	260	286	346	294	264	164
45°	128	141	158	142	130	100
55°	71	72	75	72	71	64
65°	44	44	44	44	44	43
75°	23	23	22	22	23	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°	601.4	601.4	601.4	601.4	601.4
2.5°	601.8	600.4	600.9	600.4	600.9
5°	598.1	598.6	598.1	597.6	598.6
7.5°	593.9	593.4	593.4	593.0	593.9
10°	586.4	585.5	586.9	585.9	585.9
12.5°	576.1	577.5	577.1	577.1	576.1
15°	564.0	565.4	564.5	564.0	563.0
17.5°	550.0	550.9	551.4	549.5	549.5
20°	532.2	534.1	535.0	531.7	530.3
22.5°	502.8	511.2	516.3	510.7	503.7
25°	465.9	480.3	496.2	481.3	469.1
27.5°	421.5	442.0	470.5	445.3	421.5
30°	365.4	395.8	435.5	399.0	366.8
32.5°	307.5	339.7	395.3	345.3	314.0
35°	259.8	286.0	345.8	293.9	263.5
37.5°	218.7	241.1	293.9	246.2	221.0
40°	185.0	202.8	241.1	205.1	184.6
42.5°	152.8	169.6	195.3	172.0	154.7
45°	127.6	141.1	157.9	142.5	129.9
47.5°	106.1	117.3	129.4	117.3	107.5
50°	88.3	97.2	107.0	97.2	90.2
52.5°	79.0	81.8	88.3	82.2	79.0
55°	71.0	72.4	74.8	72.4	71.0
57.5°	63.5	64.5	64.0	64.0	63.5
60°	56.5	57.0	56.1	56.5	56.1
62.5°	50.0	50.0	49.1	50.0	49.5
65°	43.5	43.9	43.5	43.5	43.5
67.5°	37.8	37.8	37.4	37.8	37.8
70°	32.7	32.7	32.2	32.7	32.2
72.5°	27.6	27.6	27.1	27.1	27.1
75°	22.9	22.9	22.4	22.4	22.9
77.5°	18.2	18.2	17.8	18.2	18.2
80°	14.0	14.0	13.6	14.0	14.0
82.5°	9.8	9.8	9.8	10.3	10.3
85°	6.1	6.1	6.1	6.1	6.1
87.5°	2.8	2.8	2.8	2.8	3.3
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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