

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: P837296

Luminaire Tested: HCSQ410D010-HM40525927-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837296
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ410D010-HM40525927-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

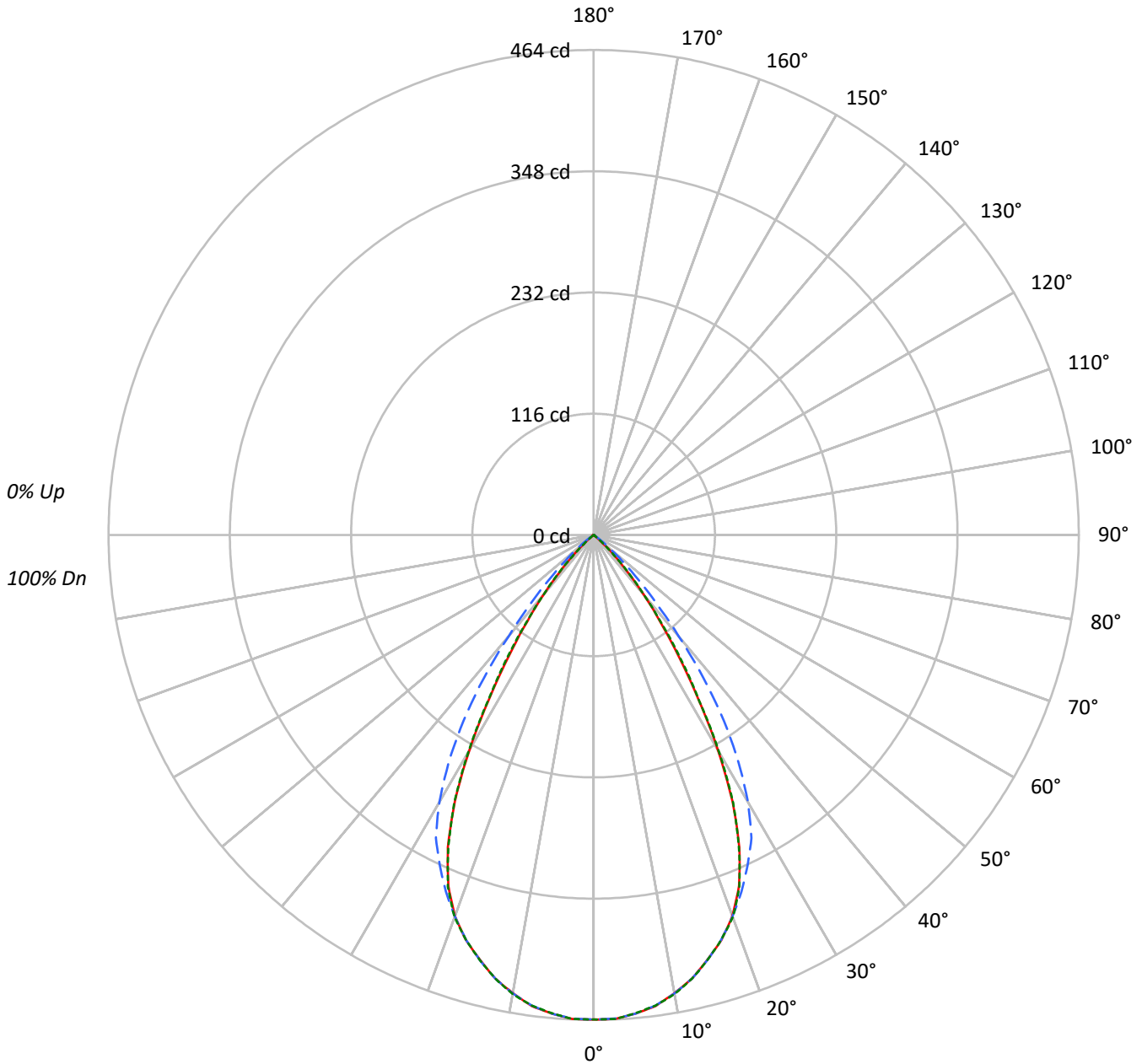
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 463.0 lumens
Efficiency: N/A
Efficacy: 46.8 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99
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					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	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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87								
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74								
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69								
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64								
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60								
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56								
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52								
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	44911	44911	44911
5°	44704	44704	44665
10°	43784	43824	43873
15°	42183	42223	42223
20°	39990	40031	40124
25°	35263	37230	35124
30°	26601	32999	26847
35°	16687	25687	17243
40°	9409	15985	9409
45°	3946	8069	3891
50°	332	3105	392
55°	152	659	152
60°	174	78	174
65°	92	92	92
70°	113	113	113
75°	150	150	150
80°	0	223	223
85°	0	445	445

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 8069 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.4	9.4
10°-20°	118.2	25.5
20°-30°	153.3	33.1
30°-40°	109.0	23.5
40°-50°	35.3	7.6
50°-60°	2.6	0.6
60°-70°	0.4	0.1
70°-80°	0.4	0.1
80°-90°	0.3	0.1
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°	315.0	68.0
0°-40°	424.0	91.6
0°-60°	461.9	99.8
0°-90°	463.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	463.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	464	464	464	464	464	
5°	460	460	460	460	459	43
15°	421	422	421	422	421	118
25°	330	338	348	340	329	148
35°	141	167	217	169	146	90
45°	29	41	59	42	28	24
55°	1	1	4	1	1	1
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	463.6	463.6	463.6	463.6	463.6
2.5°	463.6	463.6	463.2	463.2	463.6
5°	459.7	460.2	459.7	459.7	459.3
7.5°	454.6	454.6	454.1	454.1	454.1
10°	445.1	445.5	445.5	445.5	446.0
12.5°	434.8	434.8	434.8	434.8	434.8
15°	420.6	421.9	421.0	421.9	421.0
17.5°	406.4	406.4	406.0	406.8	406.0
20°	387.9	387.9	388.3	389.2	389.2
22.5°	363.4	367.7	369.4	368.6	364.3
25°	329.9	338.5	348.3	340.2	328.6
27.5°	287.7	304.1	326.8	306.6	288.6
30°	237.8	262.3	295.0	263.2	240.0
32.5°	186.2	214.6	258.0	216.8	187.9
35°	141.1	166.9	217.2	168.6	145.8
37.5°	104.1	127.7	172.5	128.6	107.1
40°	74.4	91.6	126.4	93.3	74.4
42.5°	47.7	64.9	89.0	65.4	49.9
45°	28.8	40.9	58.9	41.7	28.4
47.5°	12.9	23.2	36.6	24.1	12.9
50°	2.2	9.5	20.6	9.9	2.6
52.5°	1.3	1.7	9.9	1.7	1.3
55°	0.9	0.9	3.9	0.9	0.9
57.5°	0.9	0.9	0.9	0.9	0.9
60°	0.9	0.4	0.4	0.4	0.9
62.5°	0.4	0.4	0.4	0.4	0.4
65°	0.4	0.4	0.4	0.4	0.4
67.5°	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4
80°	0.0	0.4	0.4	0.4	0.4
82.5°	0.0	0.4	0.4	0.4	0.4
85°	0.0	0.0	0.4	0.4	0.4
87.5°	0.0	0.0	0.4	0.4	0.4
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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