

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: P837381

Luminaire Tested: HCSQ420D010-HM40525930-41SQMB

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837381
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: HCSQ420D010-HM40525930-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

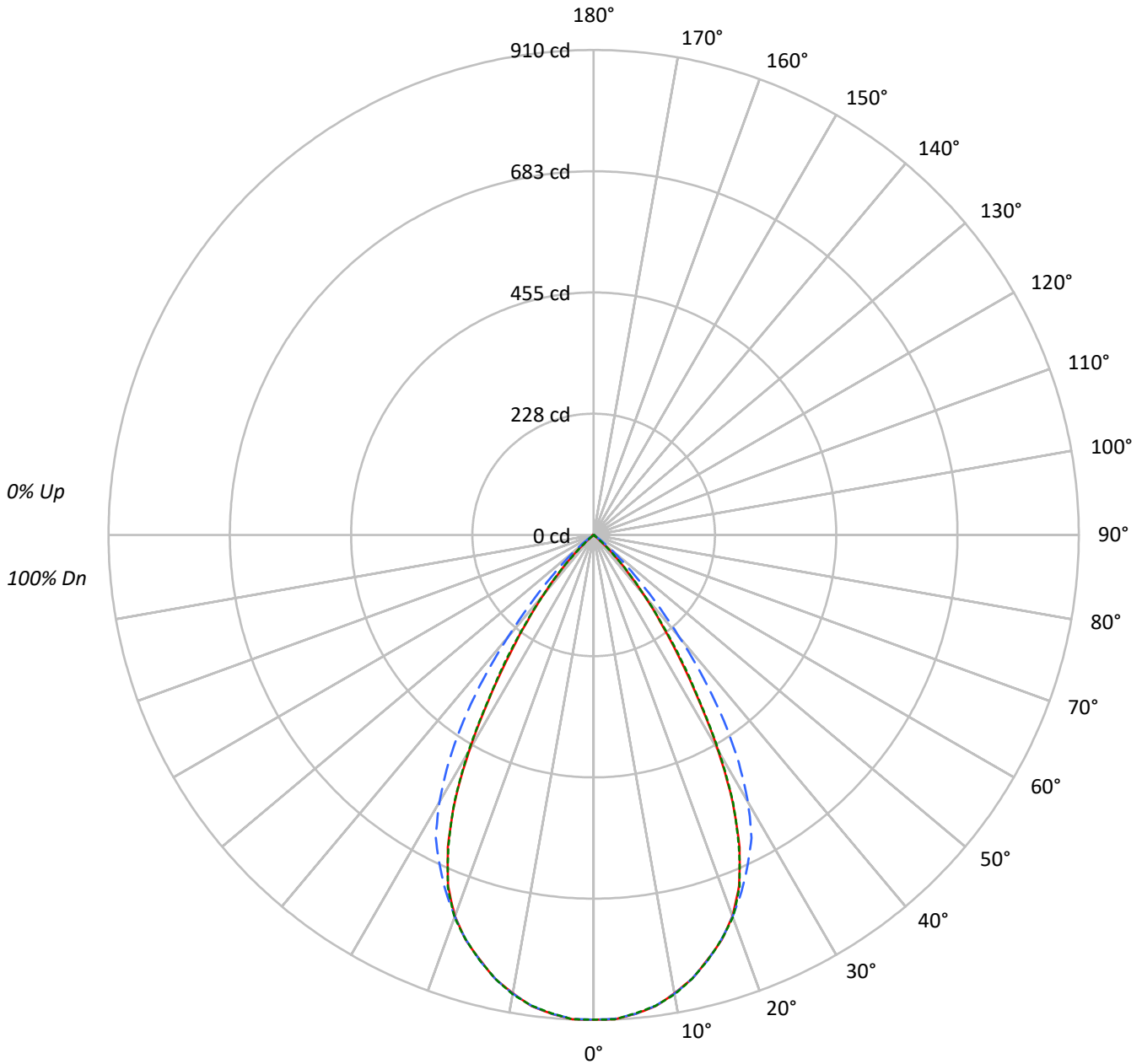
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 908.4 lumens
Efficiency: N/A
Efficacy: 45.4 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): 20
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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93					93			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87					87			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80					80			
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74					74			
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69					69			
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64					64			
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60					60			
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56					56			
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52					52			
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49					49			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	88118	88118	88118
5°	87715	87715	87628
10°	85906	85985	86074
15°	82762	82842	82842
20°	78464	78546	78722
25°	69179	73049	68901
30°	52195	64746	52665
35°	32723	50392	33823
40°	18463	31375	18463
45°	7741	15837	7631
50°	633	6104	769
55°	287	1284	287
60°	329	155	329
65°	183	183	183
70°	227	227	227
75°	299	299	299
80°	0	446	446
85°	0	889	889

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 15837 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.2	9.4
10°-20°	231.9	25.5
20°-30°	300.8	33.1
30°-40°	213.9	23.5
40°-50°	69.4	7.6
50°-60°	5.0	0.6
60°-70°	0.8	0.1
70°-80°	0.8	0.1
80°-90°	0.6	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°	618.0	68.0
0°-40°	831.9	91.6
0°-60°	906.2	99.8
0°-90°	908.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	908.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	902	903	902	902	901	85
15°	825	828	826	828	826	232
25°	647	664	683	667	645	290
35°	277	327	426	331	286	177
45°	56	80	116	82	56	47
55°	2	2	8	2	2	2
65°	1	1	1	1	1	1
75°	1	1	1	1	1	1
85°	0	0	1	1	1	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	909.6	909.6	909.6	909.6	909.6
2.5°	909.6	909.6	908.7	908.7	909.6
5°	902.0	902.8	902.0	902.0	901.1
7.5°	891.8	891.8	891.0	891.0	891.0
10°	873.3	874.1	874.1	874.1	875.0
12.5°	853.0	853.0	853.0	853.0	853.0
15°	825.2	827.7	826.0	827.7	826.0
17.5°	797.3	797.3	796.5	798.2	796.5
20°	761.1	761.1	761.9	763.6	763.6
22.5°	713.0	721.4	724.8	723.1	714.7
25°	647.2	664.0	683.4	667.4	644.6
27.5°	564.5	596.5	641.2	601.6	566.2
30°	466.6	514.7	578.8	516.4	470.8
32.5°	365.3	421.0	506.2	425.2	368.7
35°	276.7	327.4	426.1	330.7	286.0
37.5°	204.2	250.6	338.3	252.3	210.1
40°	146.0	179.7	248.1	183.1	146.0
42.5°	93.7	127.4	174.7	128.2	97.9
45°	56.5	80.2	115.6	81.8	55.7
47.5°	25.3	45.6	71.7	47.2	25.3
50°	4.2	18.6	40.5	19.4	5.1
52.5°	2.5	3.4	19.4	3.4	2.5
55°	1.7	1.7	7.6	1.7	1.7
57.5°	1.7	1.7	1.7	1.7	1.7
60°	1.7	0.8	0.8	0.8	1.7
62.5°	0.8	0.8	0.8	0.8	0.8
65°	0.8	0.8	0.8	0.8	0.8
67.5°	0.8	0.8	0.8	0.8	0.8
70°	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8
80°	0.0	0.8	0.8	0.8	0.8
82.5°	0.0	0.8	0.8	0.8	0.8
85°	0.0	0.0	0.8	0.8	0.8
87.5°	0.0	0.0	0.8	0.8	0.8
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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