

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: P837371

Luminaire Tested: HCSQ420D010-HM40525840-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837371
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-HM40525840-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

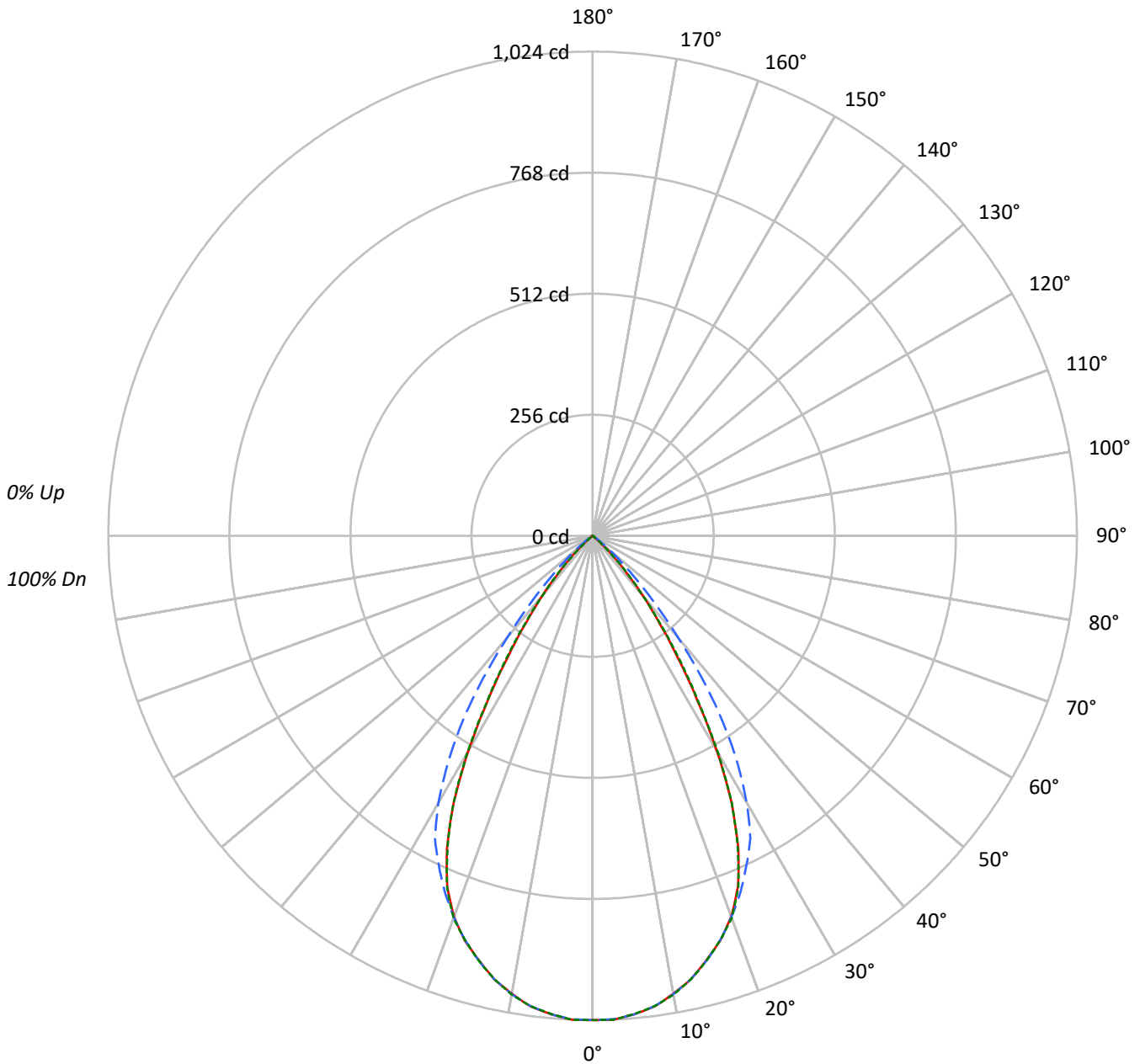
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1023.3 lumens
Efficiency: N/A
Efficacy: 51.2 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 (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										
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	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°	99230	99230	99230
5°	98772	98772	98685
10°	96737	96835	96924
15°	93192	93292	93292
20°	88350	88454	88649
25°	77902	82263	77592
30°	58772	72912	59309
35°	36851	56743	38093
40°	20790	35321	20790
45°	8727	17838	8590
50°	723	6872	859
55°	321	1453	321
60°	368	194	368
65°	229	229	229
70°	283	283	283
75°	374	374	374
80°	0	558	558
85°	0	1112	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 17838 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.0	9.4
10°-20°	261.2	25.5
20°-30°	338.8	33.1
30°-40°	240.9	23.5
40°-50°	78.1	7.6
50°-60°	5.6	0.6
60°-70°	1.0	0.1
70°-80°	1.0	0.1
80°-90°	0.7	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°	695.9	68.0
0°-40°	936.8	91.5
0°-60°	1020.6	99.7
0°-90°	1023.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1023.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1024	1024	1024	1024	1024	
5°	1016	1017	1016	1016	1015	96
15°	929	932	930	932	930	261
25°	729	748	770	752	726	326
35°	312	369	480	372	322	199
45°	64	90	130	92	63	53
55°	2	2	9	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°	1024.3	1024.3	1024.3	1024.3	1024.3
2.5°	1024.3	1024.3	1023.3	1023.3	1024.3
5°	1015.7	1016.7	1015.7	1015.7	1014.8
7.5°	1004.3	1004.3	1003.4	1003.4	1003.4
10°	983.4	984.4	984.4	984.4	985.3
12.5°	960.6	960.6	960.6	960.6	960.6
15°	929.2	932.1	930.2	932.1	930.2
17.5°	897.9	897.9	896.9	898.8	896.9
20°	857.0	857.0	858.0	859.9	859.9
22.5°	802.9	812.4	816.2	814.3	804.8
25°	728.8	747.8	769.6	751.6	725.9
27.5°	635.6	671.8	722.1	677.5	637.5
30°	525.4	579.6	651.8	581.5	530.2
32.5°	411.4	474.1	570.1	478.9	415.2
35°	311.6	368.7	479.8	372.5	322.1
37.5°	229.9	282.2	381.0	284.1	236.6
40°	164.4	202.4	279.3	206.2	164.4
42.5°	105.5	143.5	196.7	144.4	110.2
45°	63.7	90.3	130.2	92.2	62.7
47.5°	28.5	51.3	80.8	53.2	28.5
50°	4.8	20.9	45.6	21.9	5.7
52.5°	2.9	3.8	21.9	3.8	2.9
55°	1.9	1.9	8.6	1.9	1.9
57.5°	1.9	1.9	1.9	1.9	1.9
60°	1.9	1.0	1.0	1.0	1.9
62.5°	1.0	1.0	1.0	1.0	1.0
65°	1.0	1.0	1.0	1.0	1.0
67.5°	1.0	1.0	1.0	1.0	1.0
70°	1.0	1.0	1.0	1.0	1.0
72.5°	1.0	1.0	1.0	1.0	1.0
75°	1.0	1.0	1.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0	1.0
80°	0.0	1.0	1.0	1.0	1.0
82.5°	0.0	1.0	1.0	1.0	1.0
85°	0.0	0.0	1.0	1.0	1.0
87.5°	0.0	0.0	1.0	1.0	1.0
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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