

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: P837291

Luminaire Tested: HCSQ410D010-HM40525840-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837291
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-HM40525840-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

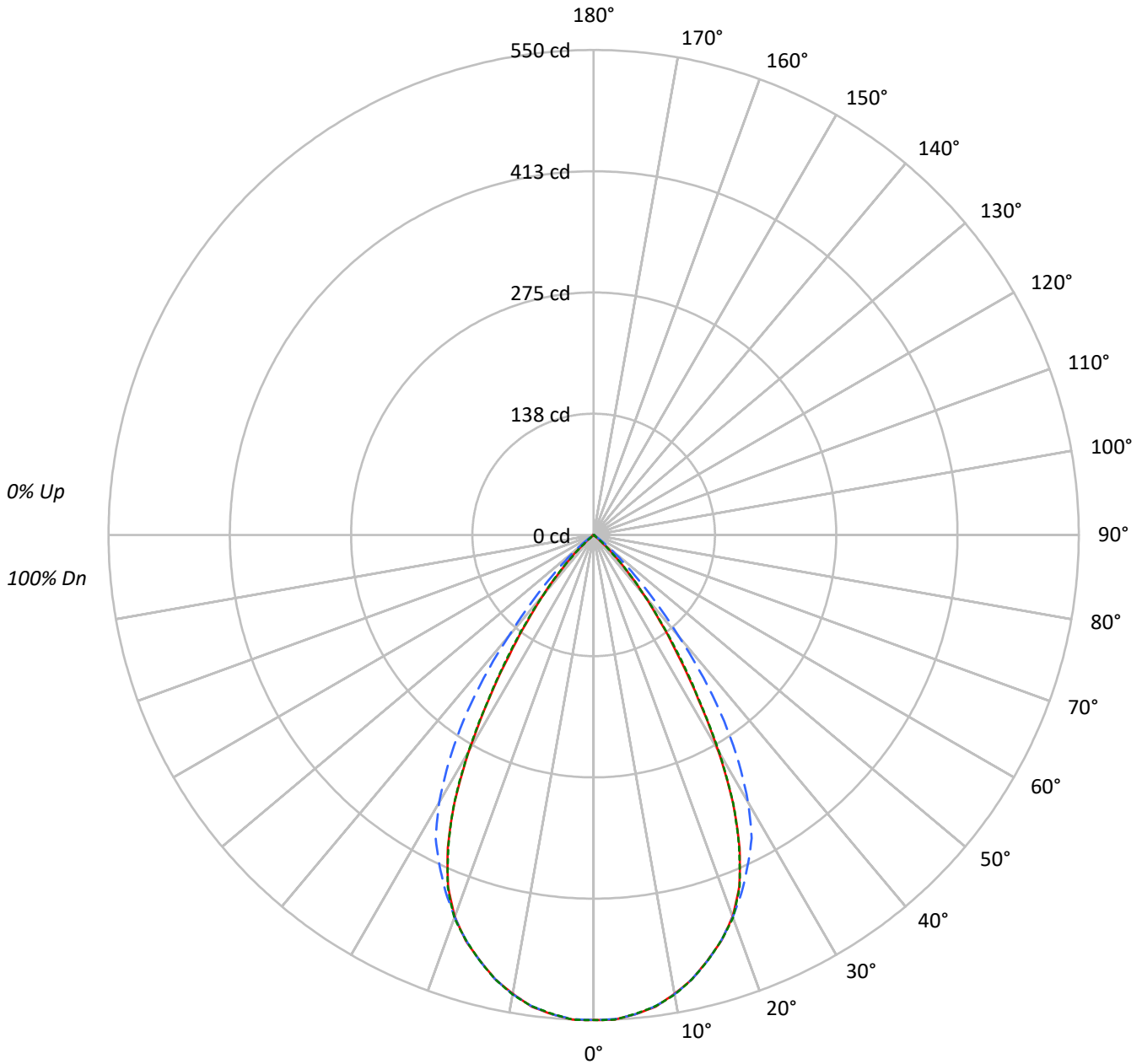
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 549.6 lumens
Efficiency: N/A
Efficacy: 55.5 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°	53301	53301	53301
5°	53057	53057	53009
10°	51969	52018	52067
15°	50066	50116	50116
20°	47464	47515	47619
25°	41848	44188	41676
30°	31567	39163	31858
35°	19797	30488	20460
40°	11167	18982	11167
45°	4685	9576	4617
50°	392	3692	467
55°	169	777	169
60°	194	97	194
65°	115	115	115
70°	142	142	142
75°	187	187	187
80°	0	279	279
85°	0	556	556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 9576 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.6	9.4
10°-20°	140.3	25.5
20°-30°	182.0	33.1
30°-40°	129.4	23.5
40°-50°	42.0	7.6
50°-60°	3.0	0.5
60°-70°	0.5	0.1
70°-80°	0.5	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°	373.8	68.0
0°-40°	503.2	91.6
0°-60°	548.2	99.7
0°-90°	549.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	549.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	550	550	550	550	550	
5°	546	546	546	546	545	52
15°	499	501	500	501	500	140
25°	392	402	413	404	390	175
35°	167	198	258	200	173	107
45°	34	48	70	50	34	28
55°	1	1	5	1	1	1
65°	0	0	0	0	0	1
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°	550.2	550.2	550.2	550.2	550.2
2.5°	550.2	550.2	549.7	549.7	550.2
5°	545.6	546.1	545.6	545.6	545.1
7.5°	539.5	539.5	539.0	539.0	539.0
10°	528.3	528.8	528.8	528.8	529.3
12.5°	516.0	516.0	516.0	516.0	516.0
15°	499.2	500.7	499.7	500.7	499.7
17.5°	482.3	482.3	481.8	482.8	481.8
20°	460.4	460.4	460.9	461.9	461.9
22.5°	431.3	436.4	438.4	437.4	432.3
25°	391.5	401.7	413.4	403.7	389.9
27.5°	341.5	360.9	387.9	363.9	342.5
30°	282.2	311.3	350.1	312.4	284.8
32.5°	221.0	254.7	306.2	257.2	223.0
35°	167.4	198.0	257.8	200.1	173.0
37.5°	123.5	151.6	204.7	152.6	127.1
40°	88.3	108.7	150.1	110.8	88.3
42.5°	56.7	77.1	105.7	77.6	59.2
45°	34.2	48.5	69.9	49.5	33.7
47.5°	15.3	27.6	43.4	28.6	15.3
50°	2.6	11.2	24.5	11.7	3.1
52.5°	1.5	2.0	11.7	2.0	1.5
55°	1.0	1.0	4.6	1.0	1.0
57.5°	1.0	1.0	1.0	1.0	1.0
60°	1.0	0.5	0.5	0.5	1.0
62.5°	0.5	0.5	0.5	0.5	0.5
65°	0.5	0.5	0.5	0.5	0.5
67.5°	0.5	0.5	0.5	0.5	0.5
70°	0.5	0.5	0.5	0.5	0.5
72.5°	0.5	0.5	0.5	0.5	0.5
75°	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5
80°	0.0	0.5	0.5	0.5	0.5
82.5°	0.0	0.5	0.5	0.5	0.5
85°	0.0	0.0	0.5	0.5	0.5
87.5°	0.0	0.0	0.5	0.5	0.5
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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