

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: P837311

Luminaire Tested: HCSQ410D010-HM40525940-41SQMB

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837311
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-HM40525940-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

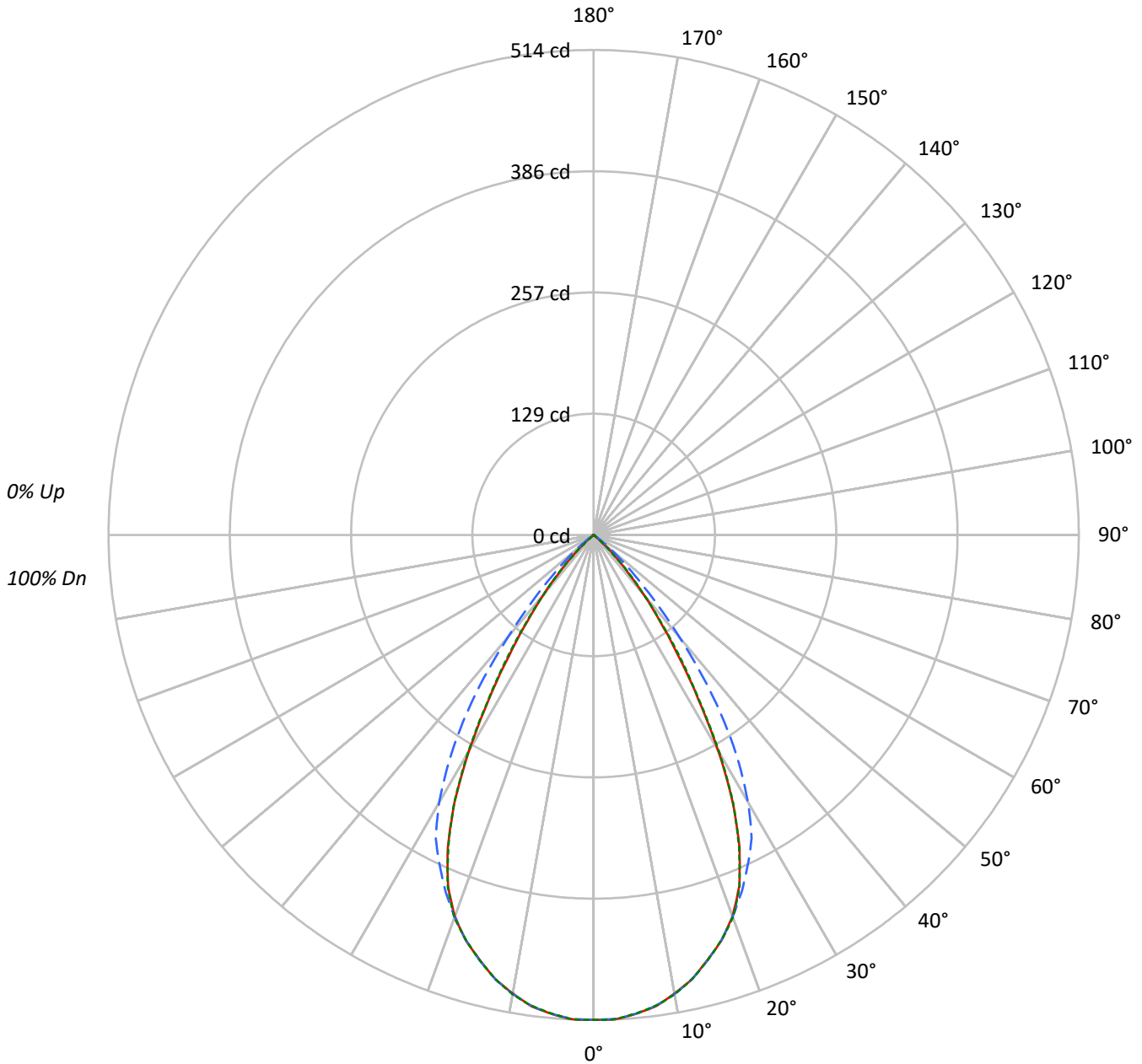
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 513.5 lumens
Efficiency: N/A
Efficacy: 51.9 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°	49794	49794	49794
5°	49566	49566	49517
10°	48546	48595	48644
15°	46767	46817	46817
20°	44340	44392	44484
25°	39090	41281	38940
30°	29498	36590	29767
35°	18496	28478	19111
40°	10433	17730	10433
45°	4370	8946	4316
50°	362	3451	437
55°	169	726	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: 8946 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.2	9.4
10°-20°	131.1	25.5
20°-30°	170.0	33.1
30°-40°	120.9	23.5
40°-50°	39.2	7.6
50°-60°	2.9	0.6
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°	349.3	68.0
0°-40°	470.1	91.5
0°-60°	512.2	99.7
0°-90°	513.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	513.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	514	514	514	514	514	
5°	510	510	510	510	509	48
15°	466	468	467	468	467	131
25°	366	375	386	377	364	164
35°	156	185	241	187	162	100
45°	32	45	65	46	32	27
55°	1	1	4	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°	514.0	514.0	514.0	514.0	514.0
2.5°	514.0	514.0	513.5	513.5	514.0
5°	509.7	510.2	509.7	509.7	509.2
7.5°	504.0	504.0	503.5	503.5	503.5
10°	493.5	494.0	494.0	494.0	494.5
12.5°	482.1	482.1	482.1	482.1	482.1
15°	466.3	467.8	466.8	467.8	466.8
17.5°	450.6	450.6	450.1	451.1	450.1
20°	430.1	430.1	430.6	431.5	431.5
22.5°	402.9	407.7	409.6	408.6	403.9
25°	365.7	375.3	386.2	377.2	364.3
27.5°	319.0	337.1	362.4	340.0	319.9
30°	263.7	290.9	327.1	291.8	266.1
32.5°	206.5	237.9	286.1	240.3	208.4
35°	156.4	185.0	240.8	186.9	161.6
37.5°	115.4	141.6	191.2	142.6	118.7
40°	82.5	101.6	140.2	103.5	82.5
42.5°	52.9	72.0	98.7	72.5	55.3
45°	31.9	45.3	65.3	46.3	31.5
47.5°	14.3	25.7	40.5	26.7	14.3
50°	2.4	10.5	22.9	11.0	2.9
52.5°	1.4	1.9	11.0	1.9	1.4
55°	1.0	1.0	4.3	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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