

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: P837691

Luminaire Tested: HCSQ460D010-HM44560840-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837691
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: HCSQ460D010-HM44560840-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

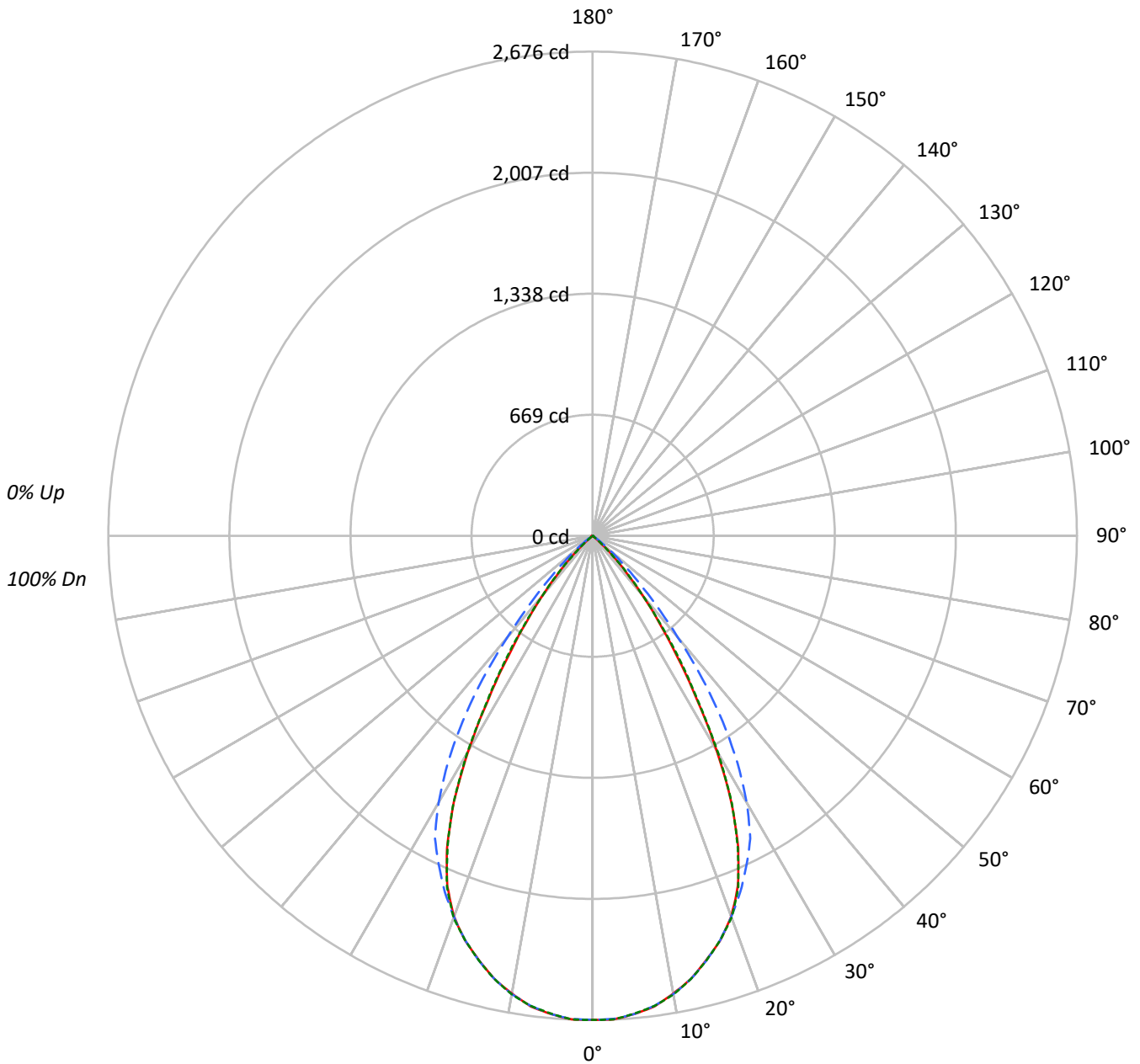
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2672.7 lumens
Efficiency: N/A
Efficacy: 47.7 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): 56
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					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°	259200	259200	259200
5°	258021	258021	257778
10°	252702	252948	253184
15°	243451	243702	243702
20°	230804	231051	231567
25°	203487	214892	202685
30°	153531	190468	154929
35°	96278	148231	99507
40°	54303	92279	54303
45°	22784	46581	22441
50°	1869	17950	2246
55°	844	3766	844
60°	969	484	969
65°	573	573	573
70°	708	708	708
75°	936	936	936
80°	0	1395	1395
85°	0	2779	2779

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 46581 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.8	9.4
10°-20°	682.2	25.5
20°-30°	885.0	33.1
30°-40°	629.2	23.5
40°-50°	204.0	7.6
50°-60°	14.7	0.6
60°-70°	2.6	0.1
70°-80°	2.6	0.1
80°-90°	1.7	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°	1817.9	68.0
0°-40°	2447.1	91.6
0°-60°	2665.8	99.7
0°-90°	2672.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2672.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2676	2676	2676	2676	2676	
5°	2653	2656	2653	2653	2651	251
15°	2427	2435	2430	2435	2430	682
25°	1904	1953	2010	1963	1896	852
35°	814	963	1253	973	841	521
45°	166	236	340	241	164	138
55°	5	5	22	5	5	6
65°	2	2	2	2	2	3
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2675.6	2675.6	2675.6	2675.6	2675.6
2.5°	2675.6	2675.6	2673.1	2673.1	2675.6
5°	2653.3	2655.7	2653.3	2653.3	2650.8
7.5°	2623.5	2623.5	2621.0	2621.0	2621.0
10°	2568.9	2571.4	2571.4	2571.4	2573.8
12.5°	2509.3	2509.3	2509.3	2509.3	2509.3
15°	2427.4	2434.8	2429.9	2434.8	2429.9
17.5°	2345.5	2345.5	2343.0	2348.0	2343.0
20°	2238.8	2238.8	2241.2	2246.2	2246.2
22.5°	2097.3	2122.1	2132.0	2127.1	2102.3
25°	1903.7	1953.3	2010.4	1963.3	1896.2
27.5°	1660.5	1754.8	1886.3	1769.7	1665.4
30°	1372.5	1514.0	1702.7	1519.0	1385.0
32.5°	1074.7	1238.5	1489.2	1250.9	1084.6
35°	814.1	963.0	1253.4	972.9	841.4
37.5°	600.6	737.2	995.3	742.1	618.0
40°	429.4	528.7	729.7	538.6	429.4
42.5°	275.5	374.8	513.8	377.3	287.9
45°	166.3	235.8	340.0	240.8	163.8
47.5°	74.5	134.0	211.0	139.0	74.5
50°	12.4	54.6	119.1	57.1	14.9
52.5°	7.4	9.9	57.1	9.9	7.4
55°	5.0	5.0	22.3	5.0	5.0
57.5°	5.0	5.0	5.0	5.0	5.0
60°	5.0	2.5	2.5	2.5	5.0
62.5°	2.5	2.5	2.5	2.5	2.5
65°	2.5	2.5	2.5	2.5	2.5
67.5°	2.5	2.5	2.5	2.5	2.5
70°	2.5	2.5	2.5	2.5	2.5
72.5°	2.5	2.5	2.5	2.5	2.5
75°	2.5	2.5	2.5	2.5	2.5
77.5°	2.5	2.5	2.5	2.5	2.5
80°	0.0	2.5	2.5	2.5	2.5
82.5°	0.0	2.5	2.5	2.5	2.5
85°	0.0	0.0	2.5	2.5	2.5
87.5°	0.0	0.0	2.5	2.5	2.5
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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