

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: P837679

Luminaire Tested: HCSQ460D010-HM44560830-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837679
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ460D010-HM44560830-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

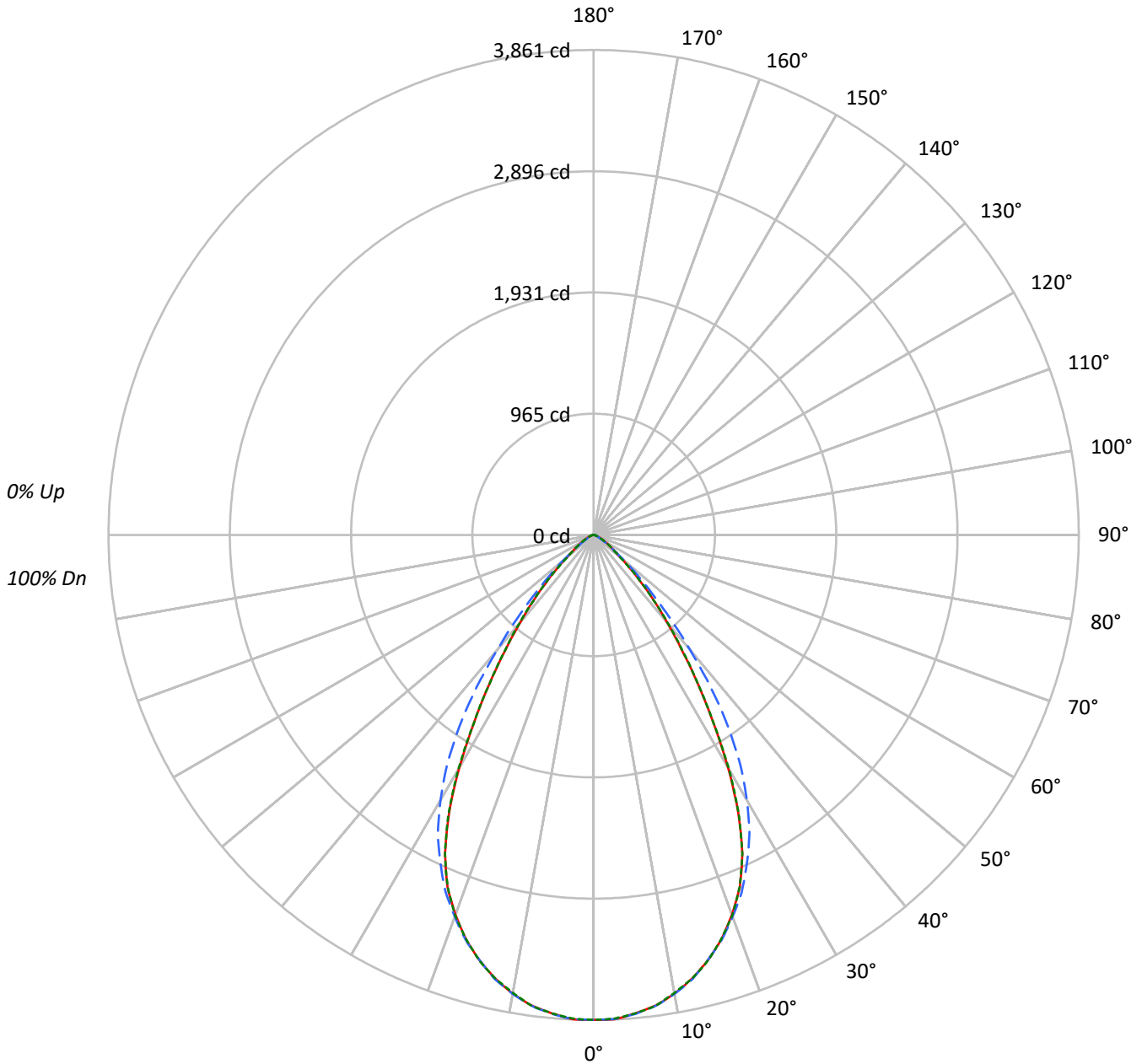
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4340.2 lumens
Efficiency: N/A
Efficacy: 77.5 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
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 (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					100			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85					85			
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77					77			
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71					71			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65					65			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60					60			
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56					56			
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52					52			
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48					48			
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45					45			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	374036	374036	374036
5°	371760	372217	371760
10°	364795	365031	364087
15°	351837	351597	352078
20°	331659	333381	332402
25°	299271	308442	299271
30°	239027	272910	240895
35°	170630	220833	170914
40°	115207	150186	117015
45°	73187	88874	73516
50°	41687	47444	40255
55°	27395	22953	26990
60°	18949	13408	18484
65°	13112	9834	13112
70°	9460	7421	9460
75°	6251	6251	6251
80°	4017	5300	5300
85°	5335	5335	5335

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 88874 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	361.7	8.3
10°-20°	983.5	22.7
20°-30°	1287.7	29.7
30°-40°	1012.1	23.3
40°-50°	472.7	10.9
50°-60°	146.5	3.4
60°-70°	52.3	1.2
70°-80°	18.4	0.4
80°-90°	5.1	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°	2633.0	60.7
0°-40°	3645.1	84.0
0°-60°	4264.4	98.3
0°-90°	4340.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4340.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3861	3861	3861	3861	3861	
5°	3823	3825	3828	3832	3823	362
15°	3508	3508	3506	3508	3510	983
25°	2800	2838	2886	2840	2800	1259
35°	1443	1574	1867	1593	1445	910
45°	534	599	649	587	537	425
55°	162	153	136	150	160	152
65°	57	52	43	50	57	60
75°	17	17	17	17	17	19
85°	5	5	5	5	5	4
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3861.0	3861.0	3861.0	3861.0	3861.0
2.5°	3861.0	3856.3	3858.6	3853.9	3853.9
5°	3822.9	3825.3	3827.6	3832.4	3822.9
7.5°	3779.9	3784.7	3782.3	3782.3	3782.3
10°	3708.4	3710.8	3710.8	3710.8	3701.2
12.5°	3617.8	3622.5	3624.9	3617.8	3617.8
15°	3508.1	3508.1	3505.7	3508.1	3510.5
17.5°	3376.9	3384.1	3384.1	3376.9	3374.5
20°	3217.1	3229.0	3233.8	3224.3	3224.3
22.5°	3038.3	3050.2	3078.8	3055.0	3035.9
25°	2799.8	2837.9	2885.6	2840.3	2799.8
27.5°	2492.1	2575.6	2685.3	2589.9	2499.3
30°	2136.8	2272.7	2439.7	2279.9	2153.5
32.5°	1774.3	1926.9	2172.6	1938.9	1774.3
35°	1442.8	1574.0	1867.3	1593.1	1445.2
37.5°	1147.1	1273.5	1531.1	1287.8	1163.8
40°	911.0	1013.5	1187.6	1011.2	925.3
42.5°	710.7	784.6	899.1	782.2	708.3
45°	534.2	598.6	648.7	586.7	536.6
47.5°	393.5	436.4	465.0	429.3	384.0
50°	276.6	307.6	314.8	300.5	267.1
52.5°	207.5	207.5	209.9	205.1	202.7
55°	162.2	152.6	135.9	150.2	159.8
57.5°	126.4	116.9	95.4	112.1	124.0
60°	97.8	88.2	69.2	85.9	95.4
62.5°	76.3	66.8	54.9	66.8	73.9
65°	57.2	52.5	42.9	50.1	57.2
67.5°	42.9	38.2	33.4	38.2	42.9
70°	33.4	31.0	26.2	28.6	33.4
72.5°	23.8	21.5	21.5	21.5	23.8
75°	16.7	16.7	16.7	16.7	16.7
77.5°	11.9	11.9	11.9	11.9	11.9
80°	7.2	7.2	9.5	9.5	9.5
82.5°	4.8	4.8	7.2	7.2	7.2
85°	4.8	4.8	4.8	4.8	4.8
87.5°	2.4	2.4	2.4	4.8	4.8
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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