

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: P837704

Luminaire Tested: HCSQ460D010-HM44560935-41SQH

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837704
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-HM44560935-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

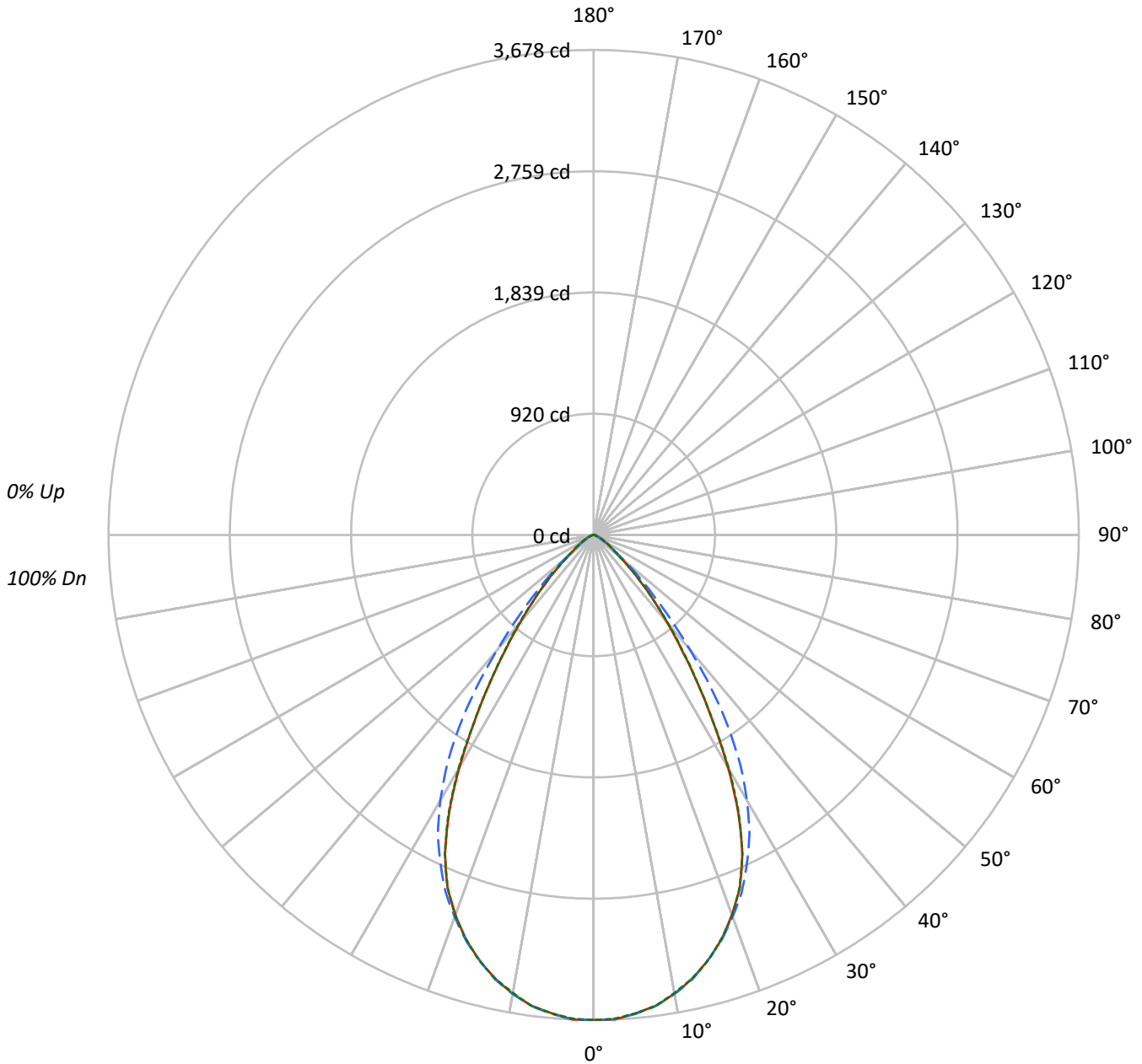
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4134.8 lumens
Efficiency: N/A
Efficacy: 73.8 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									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			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°	356347	356347	356347
5°	354168	354615	354168
10°	347541	347757	346862
15°	335189	334958	335419
20°	315969	317608	316670
25°	285108	293852	285108
30°	227718	260001	229496
35°	162564	210390	162825
40°	109756	143092	111476
45°	69721	84668	70036
50°	39728	45198	38356
55°	26095	21872	25706
60°	18058	12768	17612
65°	12493	9375	12493
70°	9007	7081	9007
75°	5951	5951	5951
80°	3794	5077	5077
85°	5002	5002	5002

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 84668 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	344.6	8.3
10°-20°	937.0	22.7
20°-30°	1226.8	29.7
30°-40°	964.2	23.3
40°-50°	450.4	10.9
50°-60°	139.6	3.4
60°-70°	49.8	1.2
70°-80°	17.5	0.4
80°-90°	4.8	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°	2508.5	60.7
0°-40°	3472.7	84.0
0°-60°	4062.7	98.3
0°-90°	4134.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4134.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3678	3678	3678	3678	3678	
5°	3642	3644	3647	3651	3642	344
15°	3342	3342	3340	3342	3344	936
25°	2667	2704	2749	2706	2667	1199
35°	1375	1500	1779	1518	1377	867
45°	509	570	618	559	511	405
55°	154	145	130	143	152	145
65°	54	50	41	48	54	57
75°	16	16	16	16	16	18
85°	4	4	4	4	4	4
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3678.4	3678.4	3678.4	3678.4	3678.4
2.5°	3678.4	3673.8	3676.1	3671.6	3671.6
5°	3642.0	3644.3	3646.6	3651.1	3642.0
7.5°	3601.1	3605.7	3603.4	3603.4	3603.4
10°	3533.0	3535.2	3535.2	3535.2	3526.1
12.5°	3446.6	3451.2	3453.4	3446.6	3446.6
15°	3342.1	3342.1	3339.8	3342.1	3344.4
17.5°	3217.2	3224.0	3224.0	3217.2	3214.9
20°	3064.9	3076.3	3080.8	3071.7	3071.7
22.5°	2894.5	2905.9	2933.2	2910.4	2892.3
25°	2667.3	2703.7	2749.1	2706.0	2667.3
27.5°	2374.2	2453.8	2558.3	2467.4	2381.1
30°	2035.7	2165.2	2324.3	2172.0	2051.6
32.5°	1690.4	1835.8	2069.8	1847.1	1690.4
35°	1374.6	1499.5	1779.0	1517.7	1376.8
37.5°	1092.8	1213.2	1458.6	1226.9	1108.7
40°	867.9	965.6	1131.5	963.3	881.5
42.5°	677.1	747.5	856.5	745.2	674.8
45°	508.9	570.3	618.0	558.9	511.2
47.5°	374.9	415.8	443.0	409.0	365.8
50°	263.6	293.1	299.9	286.3	254.5
52.5°	197.7	197.7	199.9	195.4	193.1
55°	154.5	145.4	129.5	143.1	152.2
57.5°	120.4	111.3	90.9	106.8	118.1
60°	93.2	84.1	65.9	81.8	90.9
62.5°	72.7	63.6	52.3	63.6	70.4
65°	54.5	50.0	40.9	47.7	54.5
67.5°	40.9	36.4	31.8	36.4	40.9
70°	31.8	29.5	25.0	27.3	31.8
72.5°	22.7	20.4	20.4	20.4	22.7
75°	15.9	15.9	15.9	15.9	15.9
77.5°	11.4	11.4	11.4	11.4	11.4
80°	6.8	6.8	9.1	9.1	9.1
82.5°	4.5	4.5	6.8	6.8	6.8
85°	4.5	4.5	4.5	4.5	4.5
87.5°	2.3	2.3	2.3	4.5	4.5
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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