

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: P837694

Luminaire Tested: HCSQ460D010-HM44560927-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837694
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-HM44560927-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

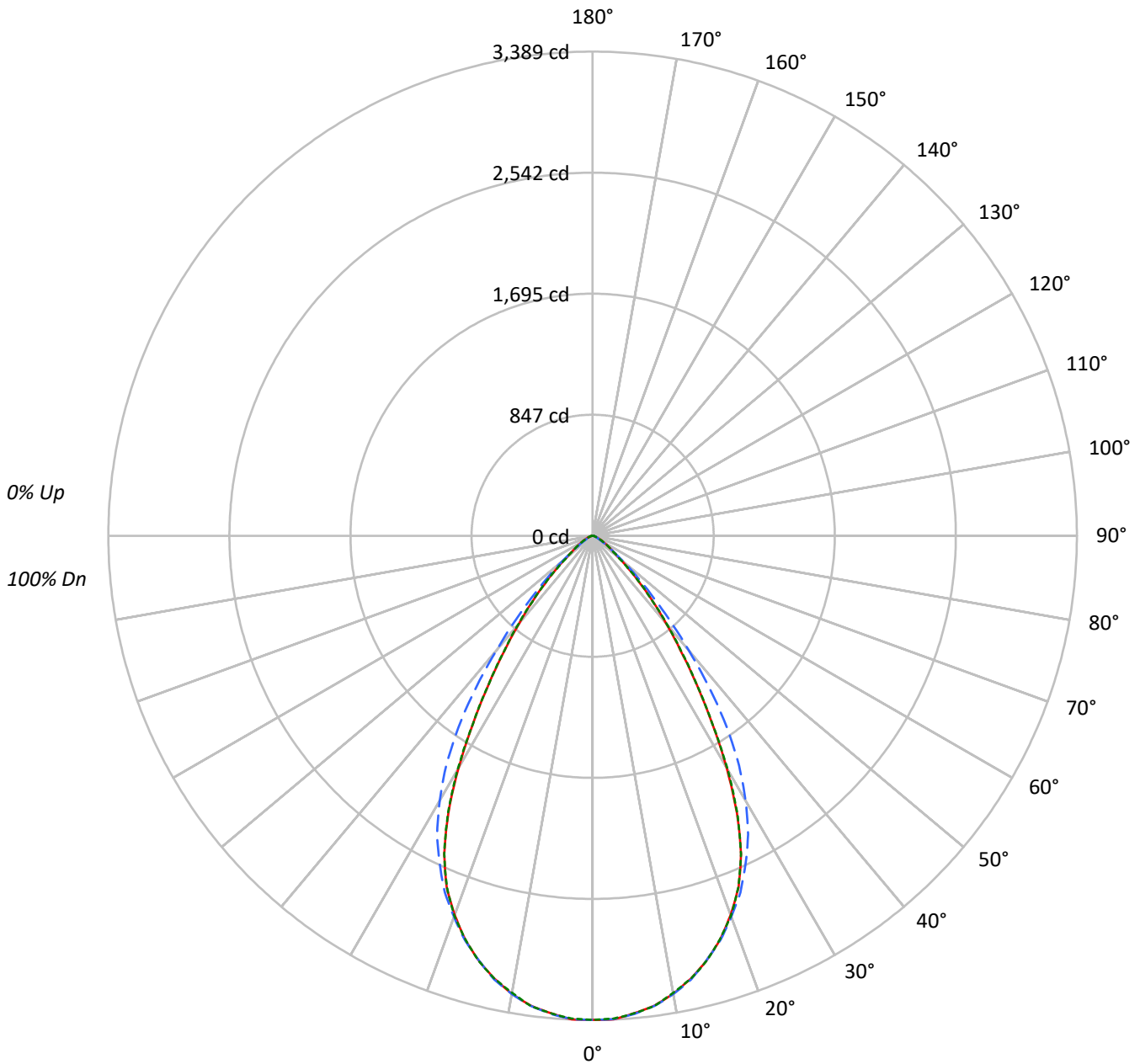
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3809.2 lumens
Efficiency: N/A
Efficacy: 68.0 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°	328272	328272	328272
5°	326268	326677	326268
10°	320164	320371	319545
15°	308792	308581	309002
20°	291082	292598	291732
25°	262651	270710	262651
30°	209786	239519	211419
35°	149757	193821	150005
40°	101106	131811	102700
45°	64227	77996	64514
50°	36593	41642	35327
55°	24034	20149	23679
60°	16624	11761	16217
65°	11507	8642	11507
70°	8299	6515	8299
75°	5502	5502	5502
80°	3515	4686	4686
85°	4668	4668	4668

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 77996 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	317.5	8.3
10°-20°	863.2	22.7
20°-30°	1130.2	29.7
30°-40°	888.3	23.3
40°-50°	414.9	10.9
50°-60°	128.6	3.4
60°-70°	45.9	1.2
70°-80°	16.2	0.4
80°-90°	4.5	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°	2310.9	60.7
0°-40°	3199.2	84.0
0°-60°	3742.6	98.3
0°-90°	3809.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3809.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3389	3389	3389	3389	3389	
5°	3355	3357	3359	3364	3355	317
15°	3079	3079	3077	3079	3081	862
25°	2457	2491	2533	2493	2457	1105
35°	1266	1381	1639	1398	1268	798
45°	469	525	569	515	471	373
55°	142	134	119	132	140	133
65°	50	46	38	44	50	52
75°	15	15	15	15	15	17
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°	3388.6	3388.6	3388.6	3388.6	3388.6
2.5°	3388.6	3384.4	3386.5	3382.4	3382.4
5°	3355.1	3357.2	3359.3	3363.5	3355.1
7.5°	3317.5	3321.7	3319.6	3319.6	3319.6
10°	3254.7	3256.8	3256.8	3256.8	3248.4
12.5°	3175.1	3179.3	3181.4	3175.1	3175.1
15°	3078.9	3078.9	3076.8	3078.9	3081.0
17.5°	2963.7	2970.0	2970.0	2963.7	2961.7
20°	2823.5	2834.0	2838.2	2829.8	2829.8
22.5°	2666.5	2677.0	2702.1	2681.2	2664.4
25°	2457.2	2490.7	2532.6	2492.8	2457.2
27.5°	2187.2	2260.5	2356.8	2273.0	2193.5
30°	1875.4	1994.7	2141.2	2000.9	1890.0
32.5°	1557.2	1691.2	1906.8	1701.6	1557.2
35°	1266.3	1381.4	1638.9	1398.2	1268.4
37.5°	1006.8	1117.7	1343.7	1130.2	1021.4
40°	799.5	889.5	1042.3	887.4	812.1
42.5°	623.7	688.6	789.1	686.5	621.6
45°	468.8	525.4	569.3	514.9	470.9
47.5°	345.4	383.0	408.1	376.7	337.0
50°	242.8	270.0	276.3	263.7	234.4
52.5°	182.1	182.1	184.2	180.0	177.9
55°	142.3	134.0	119.3	131.9	140.2
57.5°	110.9	102.6	83.7	98.4	108.8
60°	85.8	77.4	60.7	75.3	83.7
62.5°	67.0	58.6	48.1	58.6	64.9
65°	50.2	46.0	37.7	44.0	50.2
67.5°	37.7	33.5	29.3	33.5	37.7
70°	29.3	27.2	23.0	25.1	29.3
72.5°	20.9	18.8	18.8	18.8	20.9
75°	14.7	14.7	14.7	14.7	14.7
77.5°	10.5	10.5	10.5	10.5	10.5
80°	6.3	6.3	8.4	8.4	8.4
82.5°	4.2	4.2	6.3	6.3	6.3
85°	4.2	4.2	4.2	4.2	4.2
87.5°	2.1	2.1	2.1	4.2	4.2
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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