

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: P837684

Luminaire Tested: HCSQ460D010-HM44560835-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837684
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-HM44560835-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

Summary

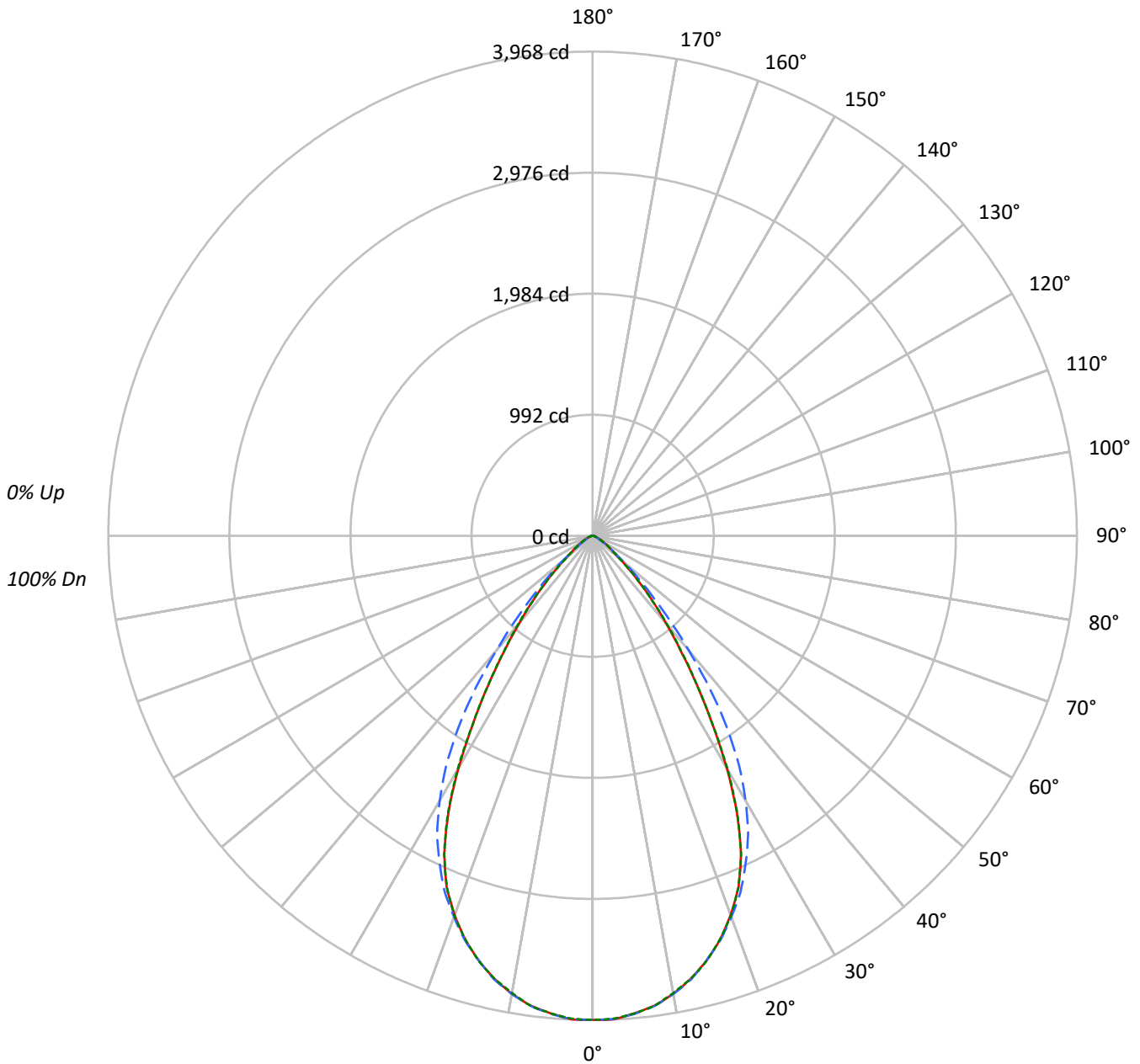
Lumens per Lamp: N/A
Luminaire Lumens: 4460.6 lumens
Efficiency: N/A
Efficacy: 79.7 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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°	384411	384411	384411
5°	382068	382544	382068
10°	374907	375153	374189
15°	361596	361345	361836
20°	340855	342629	341618
25°	307566	317004	307566
30°	245660	280472	247573
35°	175360	226959	175656
40°	118406	154359	120265
45°	75214	91340	75557
50°	42847	48755	41370
55°	28155	23595	27733
60°	19472	13776	18988
65°	13479	10109	13479
70°	9715	7648	9715
75°	6438	6438	6438
80°	4128	5467	5467
85°	5446	5446	5446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 91340 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	371.8	8.3
10°-20°	1010.8	22.7
20°-30°	1323.5	29.7
30°-40°	1040.2	23.3
40°-50°	485.9	10.9
50°-60°	150.6	3.4
60°-70°	53.7	1.2
70°-80°	19.0	0.4
80°-90°	5.2	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°	2706.0	60.7
0°-40°	3746.2	84.0
0°-60°	4382.7	98.3
0°-90°	4460.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4460.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3968	3968	3968	3968	3968	
5°	3929	3931	3934	3939	3929	372
15°	3605	3605	3603	3605	3608	1010
25°	2877	2917	2966	2919	2877	1294
35°	1483	1618	1919	1637	1485	935
45°	549	615	667	603	552	437
55°	167	157	140	154	164	156
65°	59	54	44	52	59	61
75°	17	17	17	17	17	20
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°	3968.1	3968.1	3968.1	3968.1	3968.1
2.5°	3968.1	3963.2	3965.7	3960.8	3960.8
5°	3928.9	3931.3	3933.8	3938.7	3928.9
7.5°	3884.8	3889.7	3887.2	3887.2	3887.2
10°	3811.2	3813.7	3813.7	3813.7	3803.9
12.5°	3718.1	3723.0	3725.5	3718.1	3718.1
15°	3605.4	3605.4	3602.9	3605.4	3607.8
17.5°	3470.6	3477.9	3477.9	3470.6	3468.1
20°	3306.3	3318.6	3323.5	3313.7	3313.7
22.5°	3122.5	3134.8	3164.2	3139.7	3120.1
25°	2877.4	2916.6	2965.7	2919.1	2877.4
27.5°	2561.3	2647.0	2759.8	2661.7	2568.6
30°	2196.1	2335.8	2507.3	2343.1	2213.2
32.5°	1823.5	1980.4	2232.8	1992.6	1823.5
35°	1482.8	1617.6	1919.1	1637.2	1485.3
37.5°	1178.9	1308.8	1573.5	1323.5	1196.1
40°	936.3	1041.7	1220.6	1039.2	951.0
42.5°	730.4	806.4	924.0	803.9	727.9
45°	549.0	615.2	666.7	602.9	551.5
47.5°	404.4	448.5	477.9	441.2	394.6
50°	284.3	316.2	323.5	308.8	274.5
52.5°	213.2	213.2	215.7	210.8	208.3
55°	166.7	156.9	139.7	154.4	164.2
57.5°	129.9	120.1	98.0	115.2	127.4
60°	100.5	90.7	71.1	88.2	98.0
62.5°	78.4	68.6	56.4	68.6	76.0
65°	58.8	53.9	44.1	51.5	58.8
67.5°	44.1	39.2	34.3	39.2	44.1
70°	34.3	31.9	27.0	29.4	34.3
72.5°	24.5	22.1	22.1	22.1	24.5
75°	17.2	17.2	17.2	17.2	17.2
77.5°	12.3	12.3	12.3	12.3	12.3
80°	7.4	7.4	9.8	9.8	9.8
82.5°	4.9	4.9	7.4	7.4	7.4
85°	4.9	4.9	4.9	4.9	4.9
87.5°	2.5	2.5	2.5	4.9	4.9
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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