

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: P837649

Luminaire Tested: HCSQ455D010-HM44560840-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837649
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: HCSQ455D010-HM44560840-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

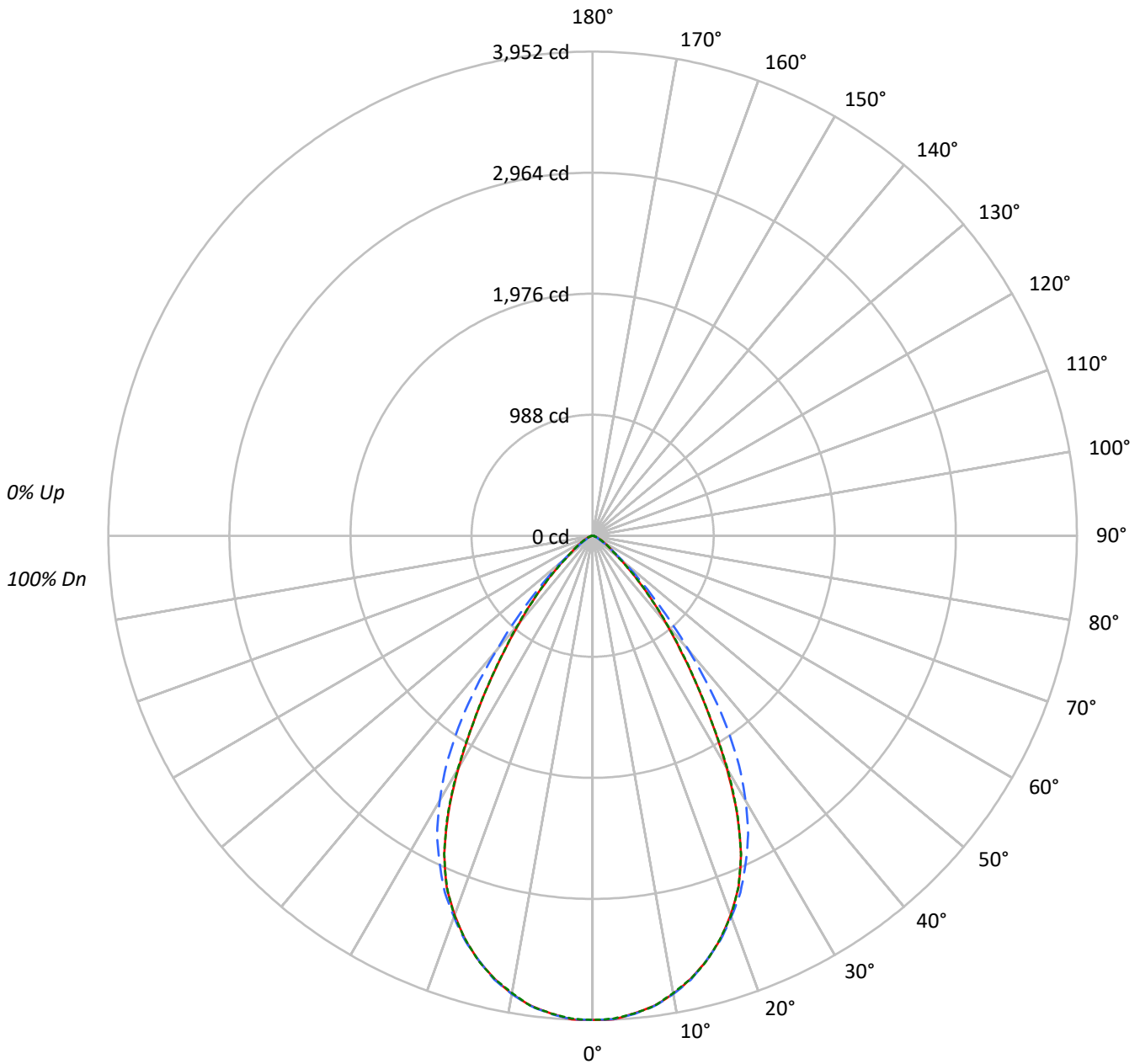
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4442.4 lumens
Efficiency: N/A
Efficacy: 82.3 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): 54
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°	382852	382852	382852
5°	380512	380988	380512
10°	373392	373629	372664
15°	360121	359881	360372
20°	339474	341237	340226
25°	306315	315711	306315
30°	244654	279342	246566
35°	174651	226036	174947
40°	117926	153727	119772
45°	74913	90970	75242
50°	42681	48559	41205
55°	28037	23494	27615
60°	19394	13718	18910
65°	13433	10063	13433
70°	9687	7619	9687
75°	6400	6400	6400
80°	4073	5467	5467
85°	5446	5446	5446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 90970 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	370.2	8.3
10°-20°	1006.7	22.7
20°-30°	1318.1	29.7
30°-40°	1036.0	23.3
40°-50°	483.9	10.9
50°-60°	150.0	3.4
60°-70°	53.5	1.2
70°-80°	18.9	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°	2695.0	60.7
0°-40°	3731.0	84.0
0°-60°	4364.9	98.3
0°-90°	4442.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4442.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3952	3952	3952	3952	3952	
5°	3913	3915	3918	3923	3913	370
15°	3591	3591	3588	3591	3593	1006
25°	2866	2905	2954	2907	2866	1289
35°	1477	1611	1911	1631	1479	931
45°	547	613	664	600	549	436
55°	166	156	139	154	164	155
65°	59	54	44	51	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°	3952.0	3952.0	3952.0	3952.0	3952.0
2.5°	3952.0	3947.1	3949.6	3944.7	3944.7
5°	3912.9	3915.4	3917.8	3922.7	3912.9
7.5°	3869.0	3873.9	3871.4	3871.4	3871.4
10°	3795.8	3798.2	3798.2	3798.2	3788.4
12.5°	3703.0	3707.9	3710.3	3703.0	3703.0
15°	3590.7	3590.7	3588.3	3590.7	3593.2
17.5°	3456.5	3463.8	3463.8	3456.5	3454.0
20°	3292.9	3305.1	3310.0	3300.2	3300.2
22.5°	3109.8	3122.1	3151.3	3126.9	3107.4
25°	2865.7	2904.8	2953.6	2907.2	2865.7
27.5°	2550.9	2636.3	2748.6	2650.9	2558.2
30°	2187.1	2326.3	2497.2	2333.6	2204.2
32.5°	1816.1	1972.3	2223.8	1984.5	1816.1
35°	1476.8	1611.1	1911.3	1630.6	1479.3
37.5°	1174.1	1303.5	1567.1	1318.1	1191.2
40°	932.5	1037.4	1215.6	1035.0	947.1
42.5°	727.4	803.1	920.3	800.7	725.0
45°	546.8	612.7	664.0	600.5	549.2
47.5°	402.8	446.7	476.0	439.4	393.0
50°	283.2	314.9	322.2	307.6	273.4
52.5°	212.4	212.4	214.8	209.9	207.5
55°	166.0	156.2	139.1	153.8	163.5
57.5°	129.4	119.6	97.6	114.7	126.9
60°	100.1	90.3	70.8	87.9	97.6
62.5°	78.1	68.3	56.1	68.3	75.7
65°	58.6	53.7	43.9	51.3	58.6
67.5°	43.9	39.1	34.2	39.1	43.9
70°	34.2	31.7	26.9	29.3	34.2
72.5°	24.4	22.0	22.0	22.0	24.4
75°	17.1	17.1	17.1	17.1	17.1
77.5°	12.2	12.2	12.2	12.2	12.2
80°	7.3	7.3	9.8	9.8	9.8
82.5°	4.9	4.9	7.3	7.3	7.3
85°	4.9	4.9	4.9	4.9	4.9
87.5°	2.4	2.4	2.4	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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