

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P837584

Luminaire Tested: HCSQ445D010-HM44560935-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837584
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: HCSQ445D010-HM44560935-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

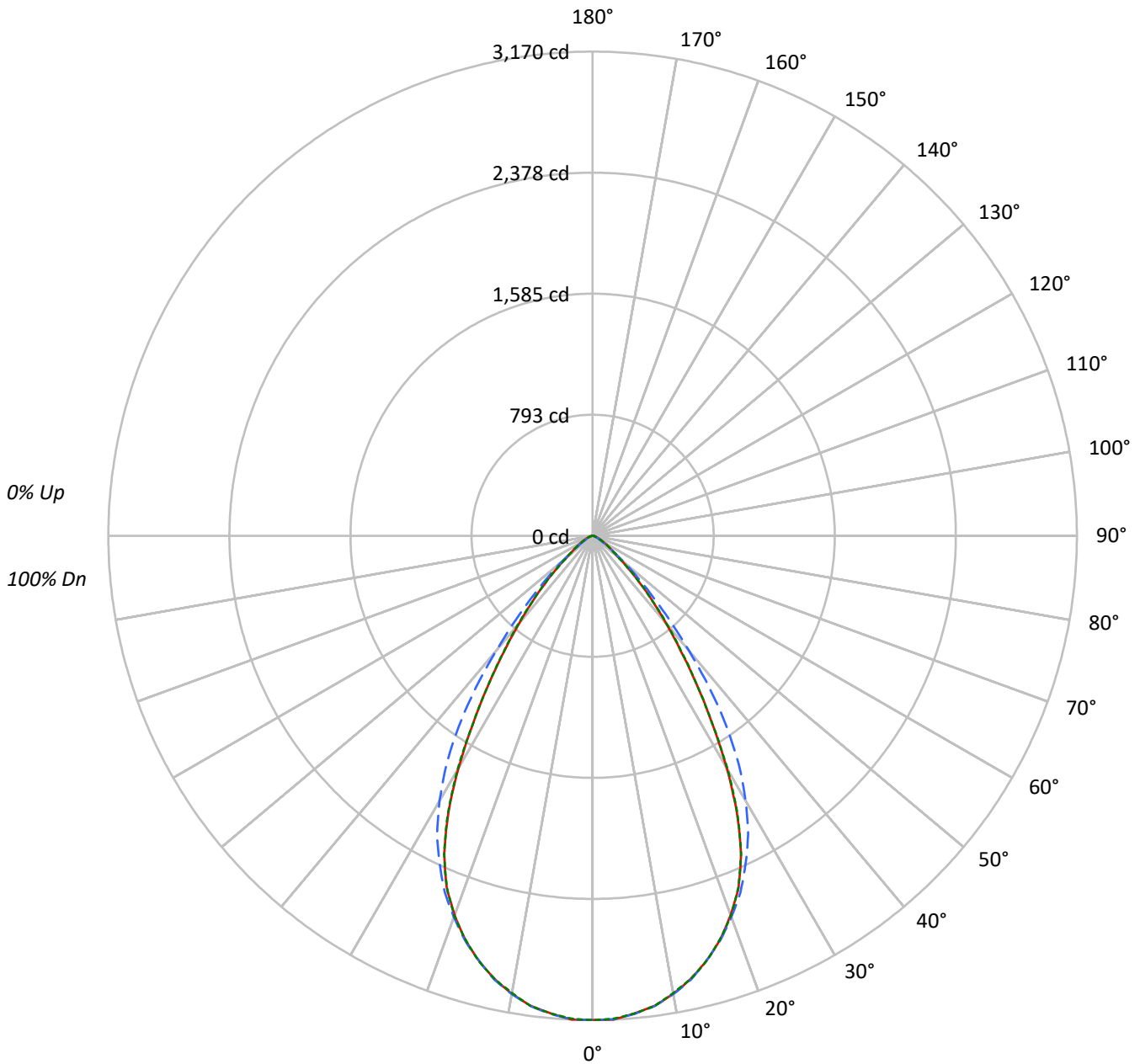
Lumens per Lamp: N/A
Luminaire Lumens: 3563.8 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 45.9
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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CATALOG NUMBER: HCSQ445D010-HM44560935-41SQH

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°	307134	307134	307134
5°	305263	305643	305263
10°	299546	299733	298966
15°	288904	288703	289094
20°	272340	273752	272938
25°	245741	253276	245741
30°	196273	224093	197806
35°	140106	181333	140343
40°	94593	123326	96086
45°	60089	72968	60363
50°	34242	38959	33051
55°	22497	18849	22159
60°	15558	11005	15171
65°	10774	8069	10774
70°	7761	6090	7761
75°	5128	5128	5128
80°	3292	4351	4351
85°	4335	4335	4335

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 72968 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	297.0	8.3
10°-20°	807.6	22.7
20°-30°	1057.4	29.7
30°-40°	831.1	23.3
40°-50°	388.2	10.9
50°-60°	120.3	3.4
60°-70°	42.9	1.2
70°-80°	15.1	0.4
80°-90°	4.2	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°	2162.0	60.7
0°-40°	2993.1	84.0
0°-60°	3501.6	98.3
0°-90°	3563.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3563.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3170	3170	3170	3170	3170	
5°	3139	3141	3143	3147	3139	297
15°	2881	2881	2879	2881	2882	807
25°	2299	2330	2370	2332	2299	1034
35°	1185	1292	1533	1308	1187	747
45°	439	492	533	482	441	349
55°	133	125	112	123	131	125
65°	47	43	35	41	47	49
75°	14	14	14	14	14	16
85°	4	4	4	4	4	3
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3170.4	3170.4	3170.4	3170.4	3170.4
2.5°	3170.4	3166.5	3168.4	3164.5	3164.5
5°	3139.1	3141.0	3143.0	3146.9	3139.1
7.5°	3103.8	3107.7	3105.8	3105.8	3105.8
10°	3045.1	3047.0	3047.0	3047.0	3039.2
12.5°	2970.6	2974.6	2976.5	2970.6	2970.6
15°	2880.6	2880.6	2878.6	2880.6	2882.5
17.5°	2772.9	2778.7	2778.7	2772.9	2770.9
20°	2641.7	2651.5	2655.4	2647.5	2647.5
22.5°	2494.8	2504.6	2528.1	2508.5	2492.8
25°	2299.0	2330.3	2369.5	2332.3	2299.0
27.5°	2046.4	2114.9	2205.0	2126.6	2052.2
30°	1754.6	1866.2	2003.3	1872.1	1768.3
32.5°	1456.9	1582.3	1784.0	1592.0	1456.9
35°	1184.7	1292.4	1533.3	1308.1	1186.7
37.5°	941.9	1045.7	1257.2	1057.4	955.6
40°	748.0	832.3	975.2	830.3	759.8
42.5°	583.6	644.3	738.3	642.3	581.6
45°	438.6	491.5	532.6	481.7	440.6
47.5°	323.1	358.4	381.9	352.5	315.3
50°	227.2	252.6	258.5	246.7	219.3
52.5°	170.4	170.4	172.3	168.4	166.5
55°	133.2	125.3	111.6	123.4	131.2
57.5°	103.8	96.0	78.3	92.0	101.8
60°	80.3	72.5	56.8	70.5	78.3
62.5°	62.7	54.8	45.0	54.8	60.7
65°	47.0	43.1	35.2	41.1	47.0
67.5°	35.2	31.3	27.4	31.3	35.2
70°	27.4	25.5	21.5	23.5	27.4
72.5°	19.6	17.6	17.6	17.6	19.6
75°	13.7	13.7	13.7	13.7	13.7
77.5°	9.8	9.8	9.8	9.8	9.8
80°	5.9	5.9	7.8	7.8	7.8
82.5°	3.9	3.9	5.9	5.9	5.9
85°	3.9	3.9	3.9	3.9	3.9
87.5°	2.0	2.0	2.0	3.9	3.9
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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