

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: P837587

Luminaire Tested: HCSQ445D010-HM44560935-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837587
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ445D010-HM44560935-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

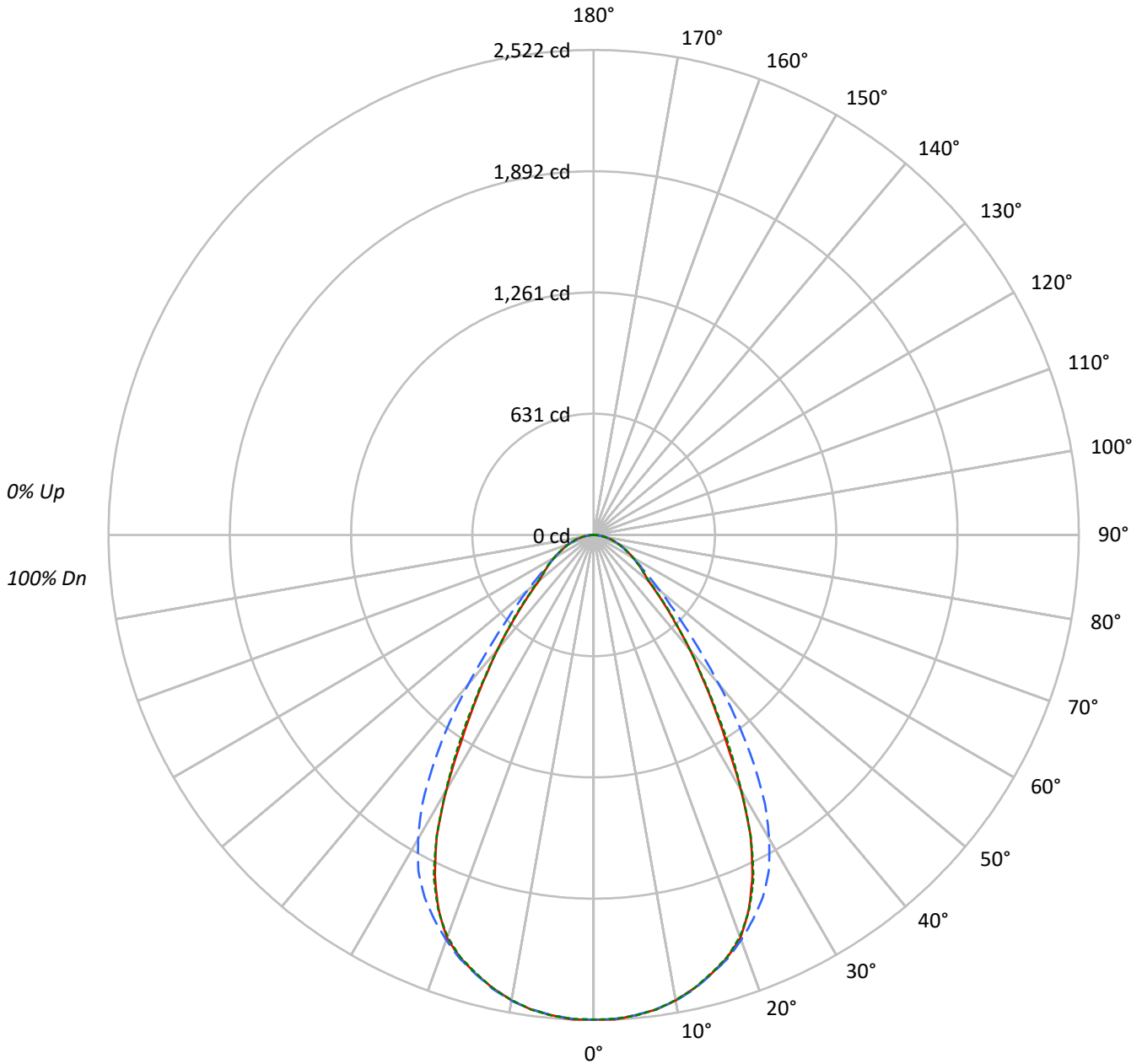
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3657.9 lumens
Efficiency: N/A
Efficacy: 79.7 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
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

TEST NUMBER: P837587
CATALOG NUMBER: HCSQ445D010-HM44560935-41SQMW

Luminous Intensity Polar Plot





TEST NUMBER: P837587

CATALOG NUMBER: HCSQ445D010-HM44560935-41SQMW

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					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								
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	244175	244175	244175
5°	243775	243775	243969
10°	241774	241970	241587
15°	237072	237273	236681
20°	229969	231175	229154
25°	208714	222321	210178
30°	171317	204182	171977
35°	128777	171387	130633
40°	98071	127802	97831
45°	73255	90696	74584
50°	55778	67594	56969
55°	50281	52932	50281
60°	45919	45531	45531
65°	41742	41742	41742
70°	38833	38266	38266
75°	35933	35184	35933
80°	32804	31688	32804
85°	28344	28344	28344

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 90696 cd/sqm



TEST NUMBER: P837587

CATALOG NUMBER: HCSQ445D010-HM44560935-41SQMW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.7	6.5
10°-20°	665.5	18.2
20°-30°	915.2	25.0
30°-40°	779.1	21.3
40°-50°	470.6	12.9
50°-60°	277.4	7.6
60°-70°	181.9	5.0
70°-80°	100.9	2.8
80°-90°	29.5	0.8
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°	1818.4	49.7
0°-40°	2597.6	71.0
0°-60°	3345.5	91.5
0°-90°	3657.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3657.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2520	2520	2520	2520	2520	
5°	2507	2509	2507	2505	2509	238
15°	2364	2370	2366	2364	2360	665
25°	1953	2013	2080	2017	1966	883
35°	1089	1199	1449	1232	1105	689
45°	535	591	662	597	544	420
55°	298	304	313	304	298	268
65°	182	184	182	182	182	182
75°	96	96	94	94	96	102
85°	26	26	26	26	26	29
90°	0	0	0	0	0	



TEST NUMBER: P837587

CATALOG NUMBER: HCSQ445D010-HM44560935-41SQMW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2520.5	2520.5	2520.5	2520.5	2520.5
2.5°	2522.5	2516.6	2518.6	2516.6	2518.6
5°	2506.8	2508.8	2506.8	2504.8	2508.8
7.5°	2489.2	2487.2	2487.2	2485.3	2489.2
10°	2457.8	2453.9	2459.8	2455.9	2455.9
12.5°	2414.8	2420.6	2418.7	2418.7	2414.8
15°	2363.8	2369.7	2365.8	2363.8	2359.9
17.5°	2305.1	2309.0	2311.0	2303.1	2303.1
20°	2230.7	2238.5	2242.4	2228.7	2222.8
22.5°	2107.3	2142.5	2164.1	2140.6	2111.2
25°	1952.6	2013.3	2079.9	2017.2	1966.3
27.5°	1766.5	1852.7	1972.1	1866.4	1766.5
30°	1531.5	1658.8	1825.3	1672.5	1537.4
32.5°	1288.7	1423.8	1656.8	1447.3	1316.1
35°	1088.9	1198.6	1449.2	1231.9	1104.6
37.5°	916.6	1010.6	1231.9	1032.1	926.3
40°	775.5	850.0	1010.6	859.8	773.6
42.5°	640.4	710.9	818.6	720.7	648.2
45°	534.7	591.4	662.0	597.3	544.4
47.5°	444.6	491.6	542.5	491.6	450.4
50°	370.1	407.4	448.5	407.4	378.0
52.5°	331.0	342.7	370.1	344.7	331.0
55°	297.7	303.6	313.4	303.6	297.7
57.5°	266.3	270.3	268.3	268.3	266.3
60°	237.0	238.9	235.0	237.0	235.0
62.5°	209.6	209.6	205.6	209.6	207.6
65°	182.1	184.1	182.1	182.1	182.1
67.5°	158.6	158.6	156.7	158.6	158.6
70°	137.1	137.1	135.1	137.1	135.1
72.5°	115.5	115.5	113.6	113.6	113.6
75°	96.0	96.0	94.0	94.0	96.0
77.5°	76.4	76.4	74.4	76.4	76.4
80°	58.8	58.8	56.8	58.8	58.8
82.5°	41.1	41.1	41.1	43.1	43.1
85°	25.5	25.5	25.5	25.5	25.5
87.5°	11.8	11.8	11.8	11.8	13.7
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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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

Scaled Data Report





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

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

Scaled Data Report



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

Scaled Data Report



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

Scaled Data Report



(END OF REPORT)