

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: P837561

Luminaire Tested: HCSQ445D010-HM44560830-41SQMB

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837561
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ445D010-HM44560830-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

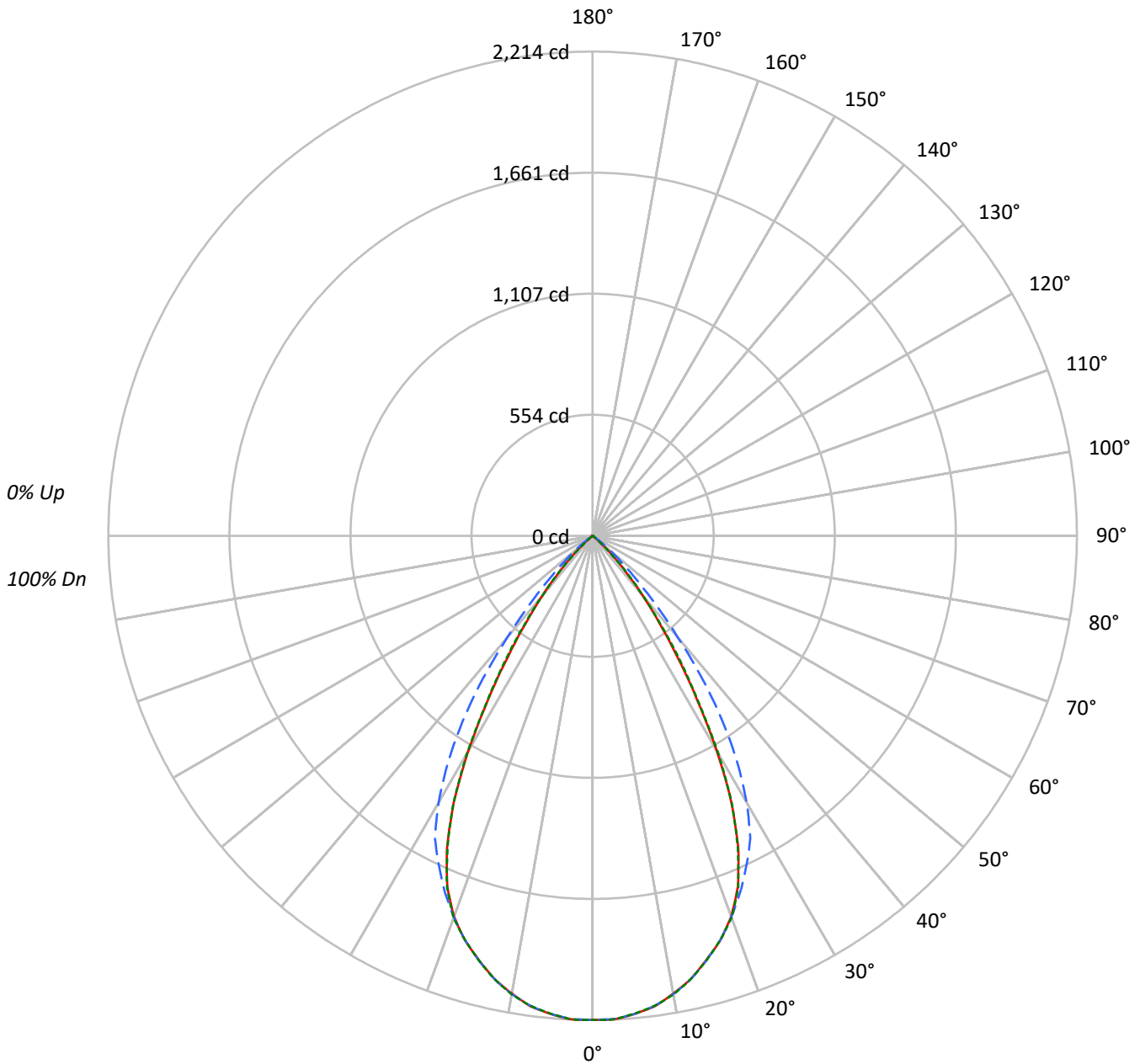
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2211.7 lumens
Efficiency: N/A
Efficacy: 48.2 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99
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: P837561
CATALOG NUMBER: HCSQ445D010-HM44560830-41SQMB

Luminous Intensity Polar Plot





TEST NUMBER: P837561

CATALOG NUMBER: HCSQ445D010-HM44560830-41SQMB

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					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	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	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93					93			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87					87			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80					80			
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74					74			
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69					69			
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64					64			
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60					60			
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56					56			
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52					52			
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49					49			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	214482	214482	214482
5°	213502	213502	213308
10°	209105	209302	209508
15°	201448	201659	201659
20°	190979	191196	191618
25°	168384	177823	167721
30°	127053	157603	128194
35°	79662	122662	82335
40°	44932	76358	44932
45°	18852	38553	18578
50°	1552	14860	1854
55°	692	3125	692
60°	794	407	794
65°	481	481	481
70°	595	595	595
75°	786	786	786
80°	0	1172	1172
85°	0	2334	2334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 38553 cd/sqm



TEST NUMBER: P837561
 CATALOG NUMBER: HCSQ445D010-HM44560830-41SQMB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.5	9.4
10°-20°	564.5	25.5
20°-30°	732.3	33.1
30°-40°	520.6	23.5
40°-50°	168.8	7.6
50°-60°	12.2	0.6
60°-70°	2.1	0.1
70°-80°	2.2	0.1
80°-90°	1.5	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°	1504.3	68.0
0°-40°	2024.9	91.6
0°-60°	2205.9	99.7
0°-90°	2211.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2211.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2214	2214	2214	2214	2214	
5°	2196	2198	2196	2196	2194	208
15°	2009	2015	2011	2015	2011	564
25°	1575	1616	1664	1625	1569	705
35°	674	797	1037	805	696	431
45°	138	195	281	199	136	115
55°	4	4	18	4	4	5
65°	2	2	2	2	2	2
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



TEST NUMBER: P837561

CATALOG NUMBER: HCSQ445D010-HM44560830-41SQMB

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2214.0	2214.0	2214.0	2214.0	2214.0
2.5°	2214.0	2214.0	2211.9	2211.9	2214.0
5°	2195.5	2197.6	2195.5	2195.5	2193.5
7.5°	2170.9	2170.9	2168.8	2168.8	2168.8
10°	2125.7	2127.7	2127.7	2127.7	2129.8
12.5°	2076.4	2076.4	2076.4	2076.4	2076.4
15°	2008.6	2014.8	2010.7	2014.8	2010.7
17.5°	1940.8	1940.8	1938.8	1942.9	1938.8
20°	1852.5	1852.5	1854.6	1858.7	1858.7
22.5°	1735.5	1756.0	1764.2	1760.1	1739.6
25°	1575.3	1616.3	1663.6	1624.6	1569.1
27.5°	1374.0	1452.0	1560.9	1464.4	1378.1
30°	1135.8	1252.8	1408.9	1256.9	1146.0
32.5°	889.3	1024.8	1232.3	1035.1	897.5
35°	673.6	796.9	1037.2	805.1	696.2
37.5°	497.0	610.0	823.6	614.1	511.4
40°	355.3	437.5	603.8	445.7	355.3
42.5°	228.0	310.1	425.1	312.2	238.2
45°	137.6	195.1	281.4	199.2	135.6
47.5°	61.6	110.9	174.6	115.0	61.6
50°	10.3	45.2	98.6	47.2	12.3
52.5°	6.2	8.2	47.2	8.2	6.2
55°	4.1	4.1	18.5	4.1	4.1
57.5°	4.1	4.1	4.1	4.1	4.1
60°	4.1	2.1	2.1	2.1	4.1
62.5°	2.1	2.1	2.1	2.1	2.1
65°	2.1	2.1	2.1	2.1	2.1
67.5°	2.1	2.1	2.1	2.1	2.1
70°	2.1	2.1	2.1	2.1	2.1
72.5°	2.1	2.1	2.1	2.1	2.1
75°	2.1	2.1	2.1	2.1	2.1
77.5°	2.1	2.1	2.1	2.1	2.1
80°	0.0	2.1	2.1	2.1	2.1
82.5°	0.0	2.1	2.1	2.1	2.1
85°	0.0	0.0	2.1	2.1	2.1
87.5°	0.0	0.0	2.1	2.1	2.1
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)