

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: P837481

Luminaire Tested: HCSQ435D010-HM43040830-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837481
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: HCSQ435D010-HM43040830-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

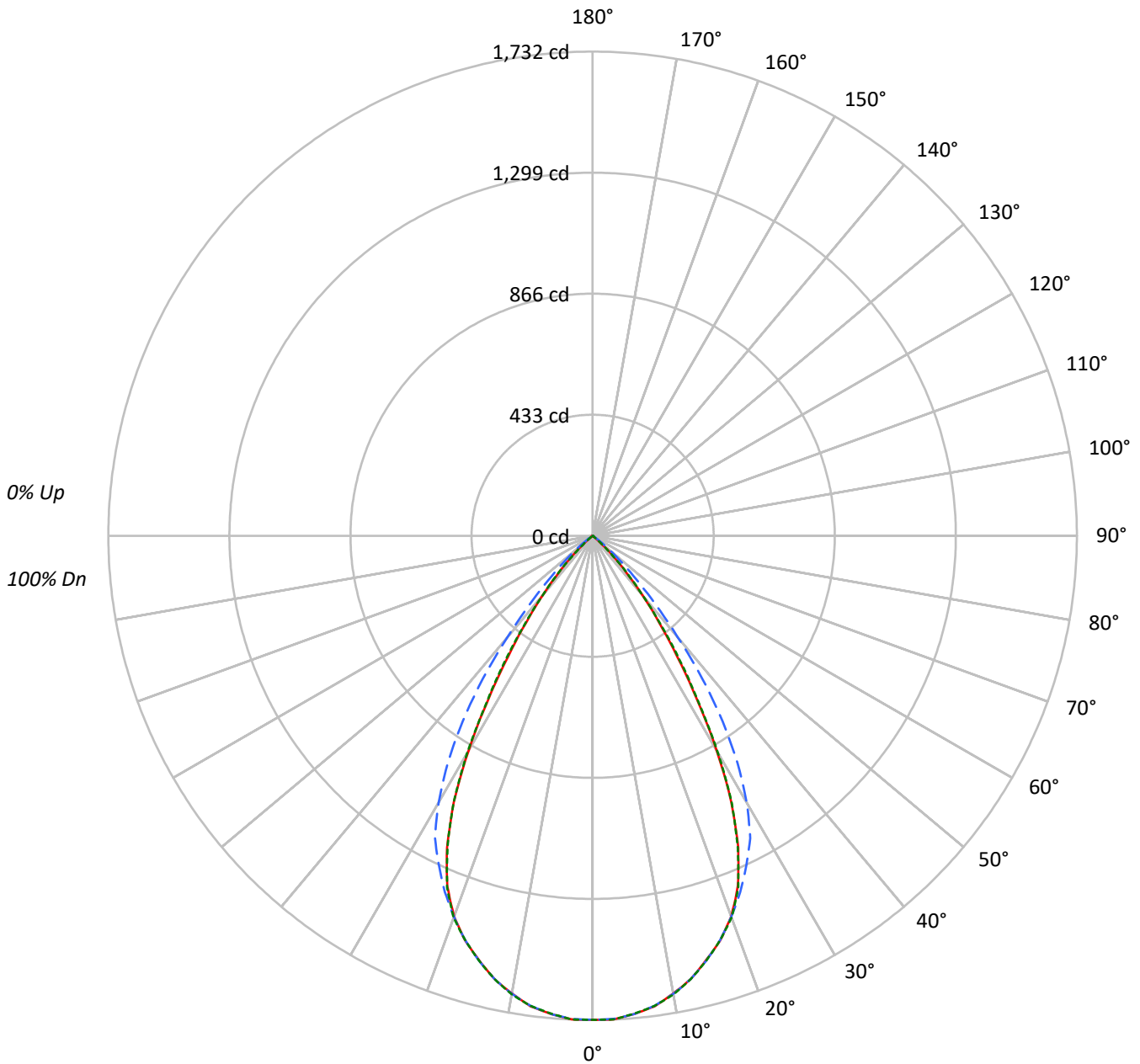
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1729.6 lumens
Efficiency: N/A
Efficacy: 50.9 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): 34
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: P837481
CATALOG NUMBER: HCSQ435D010-HM43040830-41SQMB

Luminous Intensity Polar Plot





TEST NUMBER: P837481

CATALOG NUMBER: HCSQ435D010-HM43040830-41SQMB

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	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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87								
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74								
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69								
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64								
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60								
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56								
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52								
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	167740	167740	167740
5°	166970	166970	166815
10°	163530	163687	163855
15°	157550	157710	157710
20°	149361	149526	149856
25°	131689	139064	131176
30°	99356	123261	100262
35°	62301	95923	64394
40°	35144	59715	35144
45°	14741	30154	14522
50°	1206	11620	1447
55°	540	2449	540
60°	620	310	620
65°	367	367	367
70°	453	453	453
75°	599	599	599
80°	0	893	893
85°	0	1778	1778

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 30154 cd/sqm



TEST NUMBER: P837481

CATALOG NUMBER: HCSQ435D010-HM43040830-41SQMB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	9.4
10°-20°	441.5	25.5
20°-30°	572.7	33.1
30°-40°	407.2	23.5
40°-50°	132.0	7.6
50°-60°	9.5	0.6
60°-70°	1.6	0.1
70°-80°	1.7	0.1
80°-90°	1.1	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°	1176.5	68.0
0°-40°	1583.6	91.6
0°-60°	1725.1	99.7
0°-90°	1729.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1729.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1732	1732	1732	1732	1732	
5°	1717	1719	1717	1717	1715	162
15°	1571	1576	1572	1576	1572	441
25°	1232	1264	1301	1270	1227	552
35°	527	623	811	630	544	337
45°	108	153	220	156	106	90
55°	3	3	14	3	3	4
65°	2	2	2	2	2	2
75°	2	2	2	2	2	1
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



TEST NUMBER: P837481

CATALOG NUMBER: HCSQ435D010-HM43040830-41SQMB

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1731.5	1731.5	1731.5	1731.5	1731.5
2.5°	1731.5	1731.5	1729.9	1729.9	1731.5
5°	1717.0	1718.7	1717.0	1717.0	1715.4
7.5°	1697.8	1697.8	1696.2	1696.2	1696.2
10°	1662.4	1664.0	1664.0	1664.0	1665.7
12.5°	1623.9	1623.9	1623.9	1623.9	1623.9
15°	1570.9	1575.7	1572.5	1575.7	1572.5
17.5°	1517.9	1517.9	1516.3	1519.5	1516.3
20°	1448.8	1448.8	1450.4	1453.6	1453.6
22.5°	1357.3	1373.3	1379.7	1376.5	1360.5
25°	1232.0	1264.1	1301.0	1270.5	1227.2
27.5°	1074.6	1135.6	1220.7	1145.2	1077.8
30°	888.2	979.8	1101.9	983.0	896.3
32.5°	695.5	801.5	963.7	809.5	701.9
35°	526.8	623.2	811.1	629.6	544.5
37.5°	388.7	477.0	644.1	480.3	399.9
40°	277.9	342.1	472.2	348.5	277.9
42.5°	178.3	242.5	332.5	244.1	186.3
45°	107.6	152.6	220.1	155.8	106.0
47.5°	48.2	86.7	136.5	89.9	48.2
50°	8.0	35.3	77.1	36.9	9.6
52.5°	4.8	6.4	36.9	6.4	4.8
55°	3.2	3.2	14.5	3.2	3.2
57.5°	3.2	3.2	3.2	3.2	3.2
60°	3.2	1.6	1.6	1.6	3.2
62.5°	1.6	1.6	1.6	1.6	1.6
65°	1.6	1.6	1.6	1.6	1.6
67.5°	1.6	1.6	1.6	1.6	1.6
70°	1.6	1.6	1.6	1.6	1.6
72.5°	1.6	1.6	1.6	1.6	1.6
75°	1.6	1.6	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6
80°	0.0	1.6	1.6	1.6	1.6
82.5°	0.0	1.6	1.6	1.6	1.6
85°	0.0	0.0	1.6	1.6	1.6
87.5°	0.0	0.0	1.6	1.6	1.6
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)