

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: P837357

Luminaire Tested: HCSQ420D010-HM40525827-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837357
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: HCSQ420D010-HM40525827-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

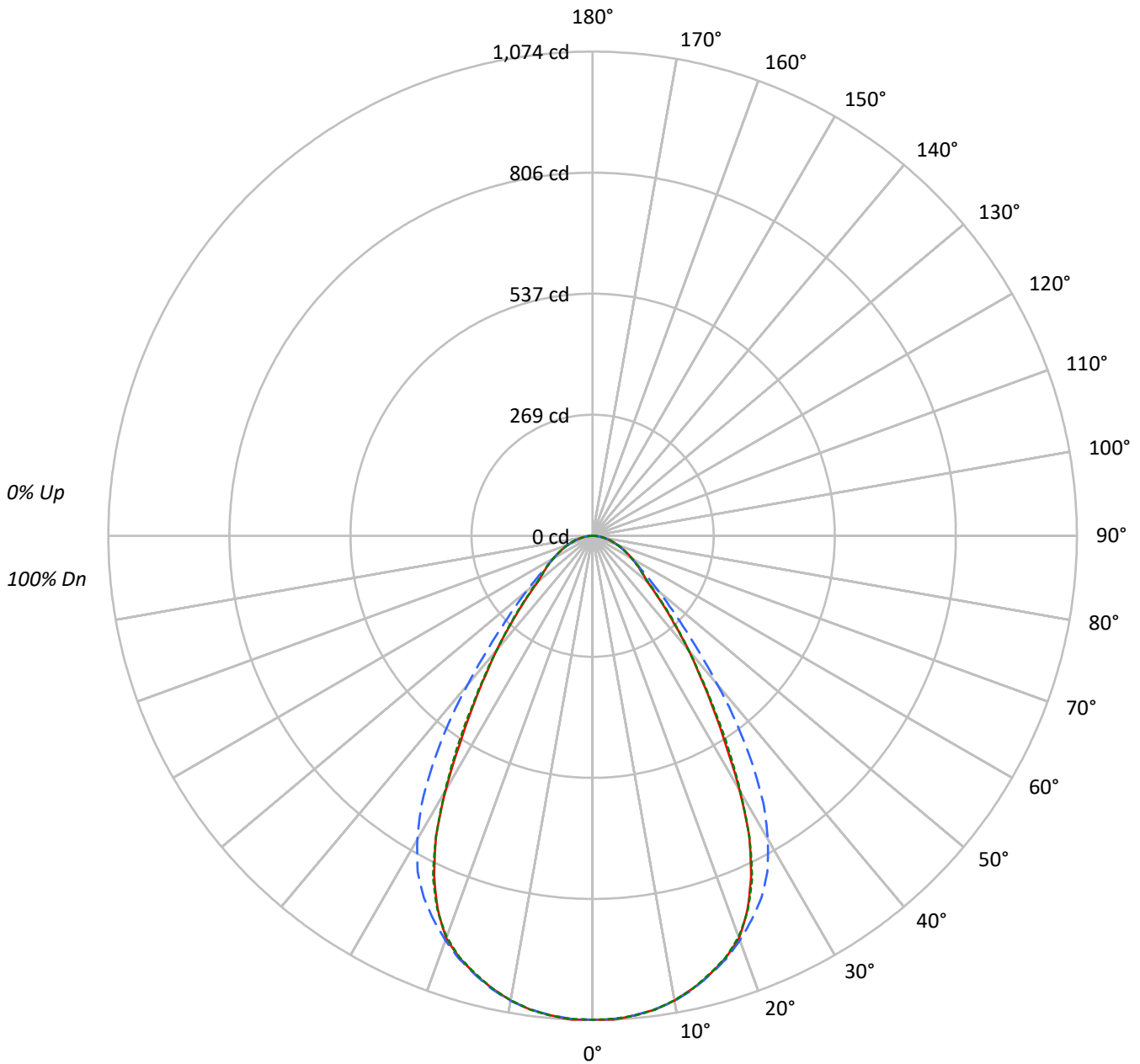
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1557.9 lumens
Efficiency: N/A
Efficacy: 77.9 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): 20
Input Voltage (V): NR
Input Current (Ain): 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: P837357
CATALOG NUMBER: HCSQ420D010-HM40525827-41SQMW

Luminous Intensity Polar Plot





TEST NUMBER: P837357

CATALOG NUMBER: HCSQ420D010-HM40525827-41SQMW

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	103996	103996	103996
5°	103819	103819	103907
10°	102974	103052	102895
15°	100975	101055	100804
20°	97938	98454	97598
25°	88890	94683	89510
30°	72968	86962	73247
35°	54850	72992	55631
40°	41770	54429	41669
45°	31195	38621	31771
50°	23752	28786	24265
55°	21416	22548	21416
60°	19549	19394	19394
65°	17788	17788	17788
70°	16541	16315	16315
75°	15309	14972	15309
80°	13947	13501	13947
85°	12004	12004	12004

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 38621 cd/sqm



TEST NUMBER: P837357

CATALOG NUMBER: HCSQ420D010-HM40525827-41SQMW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.2	6.5
10°-20°	283.4	18.2
20°-30°	389.8	25.0
30°-40°	331.8	21.3
40°-50°	200.4	12.9
50°-60°	118.1	7.6
60°-70°	77.5	5.0
70°-80°	43.0	2.8
80°-90°	12.6	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°	774.5	49.7
0°-40°	1106.3	71.0
0°-60°	1424.9	91.5
0°-90°	1557.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1557.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1074	1074	1074	1074	1074	
5°	1068	1068	1068	1067	1068	101
15°	1007	1009	1008	1007	1005	283
25°	832	858	886	859	837	376
35°	464	510	617	525	470	294
45°	228	252	282	254	232	179
55°	127	129	134	129	127	114
65°	78	78	78	78	78	78
75°	41	41	40	40	41	43
85°	11	11	11	11	11	12
90°	0	0	0	0	0	



TEST NUMBER: P837357

CATALOG NUMBER: HCSQ420D010-HM40525827-41SQMW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1073.5	1073.5	1073.5	1073.5	1073.5
2.5°	1074.3	1071.8	1072.7	1071.8	1072.7
5°	1067.6	1068.5	1067.6	1066.8	1068.5
7.5°	1060.1	1059.3	1059.3	1058.5	1060.1
10°	1046.8	1045.1	1047.6	1046.0	1046.0
12.5°	1028.4	1030.9	1030.1	1030.1	1028.4
15°	1006.8	1009.3	1007.6	1006.8	1005.1
17.5°	981.7	983.4	984.2	980.9	980.9
20°	950.0	953.4	955.0	949.2	946.7
22.5°	897.5	912.5	921.7	911.7	899.2
25°	831.6	857.5	885.8	859.1	837.4
27.5°	752.4	789.1	839.9	794.9	752.4
30°	652.3	706.5	777.4	712.3	654.8
32.5°	548.8	606.4	705.6	616.4	560.5
35°	463.8	510.5	617.2	524.6	470.4
37.5°	390.4	430.4	524.6	439.6	394.5
40°	330.3	362.0	430.4	366.2	329.5
42.5°	272.8	302.8	348.7	306.9	276.1
45°	227.7	251.9	281.9	254.4	231.9
47.5°	189.3	209.4	231.0	209.4	191.8
50°	157.6	173.5	191.0	173.5	161.0
52.5°	141.0	146.0	157.6	146.8	141.0
55°	126.8	129.3	133.5	129.3	126.8
57.5°	113.4	115.1	114.3	114.3	113.4
60°	100.9	101.8	100.1	100.9	100.1
62.5°	89.2	89.2	87.6	89.2	88.4
65°	77.6	78.4	77.6	77.6	77.6
67.5°	67.6	67.6	66.7	67.6	67.6
70°	58.4	58.4	57.6	58.4	57.6
72.5°	49.2	49.2	48.4	48.4	48.4
75°	40.9	40.9	40.0	40.0	40.9
77.5°	32.5	32.5	31.7	32.5	32.5
80°	25.0	25.0	24.2	25.0	25.0
82.5°	17.5	17.5	17.5	18.4	18.4
85°	10.8	10.8	10.8	10.8	10.8
87.5°	5.0	5.0	5.0	5.0	5.8
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)