

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: P837392

Luminaire Tested: HCSQ420D010-HM40525940-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837392
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-HM40525940-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

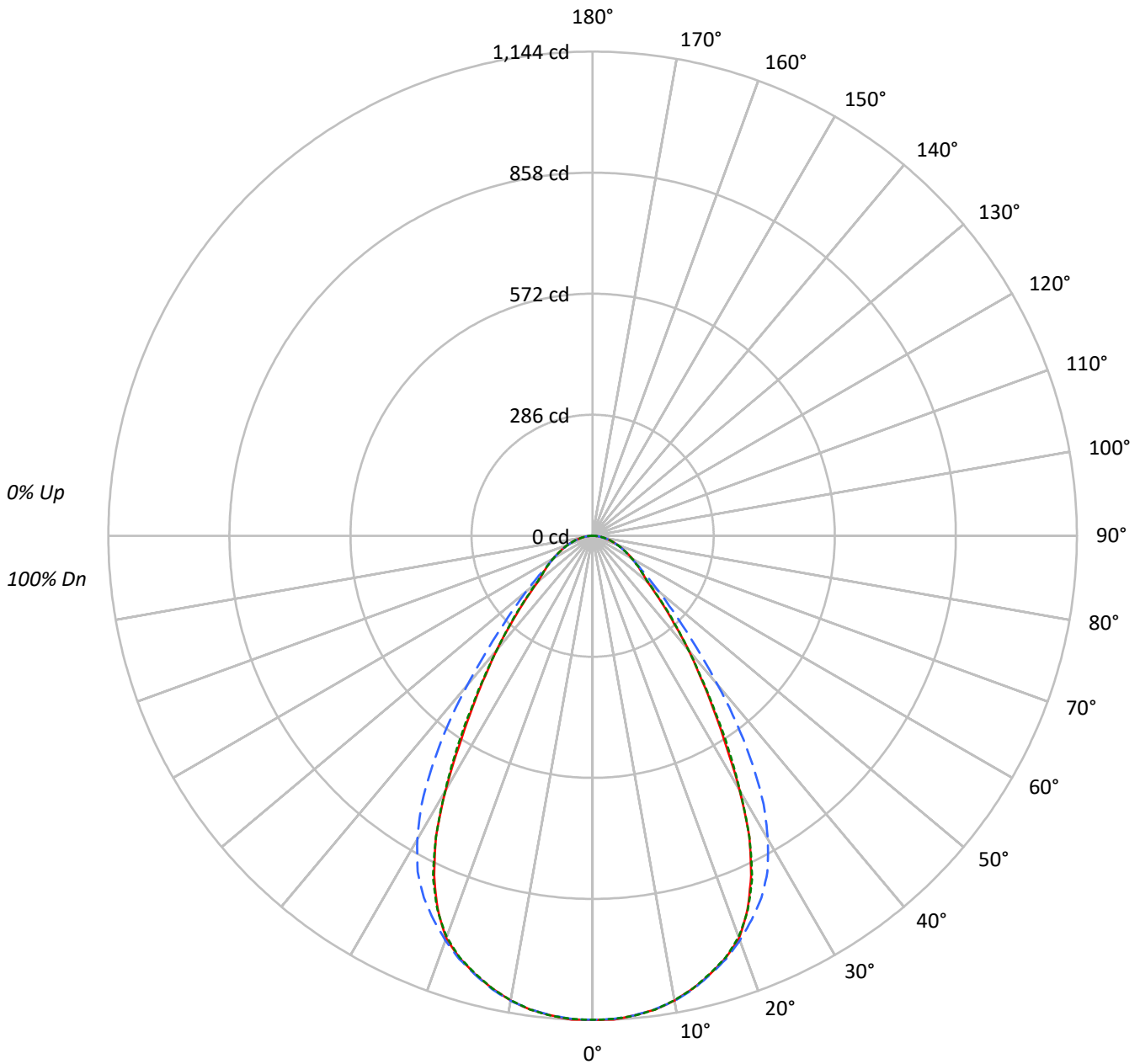
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1659.4 lumens
Efficiency: N/A
Efficacy: 83.0 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 (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: P837392
CATALOG NUMBER: HCSQ420D010-HM40525940-41SQMW

Luminous Intensity Polar Plot





TEST NUMBER: P837392

CATALOG NUMBER: HCSQ420D010-HM40525940-41SQMW

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°	110777	110777	110777
5°	110588	110588	110675
10°	109682	109771	109594
15°	107554	107644	107373
20°	104330	104876	103959
25°	94683	100851	95346
30°	77722	92622	78013
35°	58422	77758	59262
40°	44489	57970	44375
45°	33237	41142	33840
50°	25304	30670	25847
55°	22801	24017	22801
60°	20828	20654	20654
65°	18934	18934	18934
70°	17618	17363	17363
75°	16282	15945	16282
80°	14895	14393	14895
85°	12894	12894	12894

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 41142 cd/sqm



TEST NUMBER: P837392

CATALOG NUMBER: HCSQ420D010-HM40525940-41SQMW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.8	6.5
10°-20°	301.9	18.2
20°-30°	415.2	25.0
30°-40°	353.4	21.3
40°-50°	213.5	12.9
50°-60°	125.8	7.6
60°-70°	82.5	5.0
70°-80°	45.8	2.8
80°-90°	13.4	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°	824.9	49.7
0°-40°	1178.4	71.0
0°-60°	1517.7	91.5
0°-90°	1659.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1659.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1144	1144	1144	1144	1144	
5°	1137	1138	1137	1136	1138	108
15°	1072	1075	1073	1072	1071	302
25°	886	913	944	915	892	400
35°	494	544	658	559	501	313
45°	243	268	300	271	247	191
55°	135	138	142	138	135	121
65°	83	84	83	83	83	83
75°	44	44	43	43	44	46
85°	12	12	12	12	12	13
90°	0	0	0	0	0	



TEST NUMBER: P837392

CATALOG NUMBER: HCSQ420D010-HM40525940-41SQMW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1143.5	1143.5	1143.5	1143.5	1143.5
2.5°	1144.3	1141.7	1142.6	1141.7	1142.6
5°	1137.2	1138.1	1137.2	1136.3	1138.1
7.5°	1129.2	1128.3	1128.3	1127.5	1129.2
10°	1115.0	1113.2	1115.9	1114.1	1114.1
12.5°	1095.5	1098.1	1097.3	1097.3	1095.5
15°	1072.4	1075.0	1073.3	1072.4	1070.6
17.5°	1045.7	1047.5	1048.4	1044.8	1044.8
20°	1012.0	1015.5	1017.3	1011.1	1008.4
22.5°	956.0	972.0	981.8	971.1	957.8
25°	885.8	913.3	943.5	915.1	892.0
27.5°	801.4	840.5	894.7	846.7	801.4
30°	694.8	752.5	828.0	758.7	697.4
32.5°	584.6	645.9	751.6	656.6	597.0
35°	494.0	543.7	657.5	558.8	501.1
37.5°	415.8	458.4	558.8	468.2	420.2
40°	351.8	385.6	458.4	390.0	350.9
42.5°	290.5	322.5	371.4	327.0	294.1
45°	242.6	268.3	300.3	271.0	247.0
47.5°	201.7	223.0	246.1	223.0	204.3
50°	167.9	184.8	203.5	184.8	171.5
52.5°	150.2	155.5	167.9	156.4	150.2
55°	135.0	137.7	142.2	137.7	135.0
57.5°	120.8	122.6	121.7	121.7	120.8
60°	107.5	108.4	106.6	107.5	106.6
62.5°	95.1	95.1	93.3	95.1	94.2
65°	82.6	83.5	82.6	82.6	82.6
67.5°	72.0	72.0	71.1	72.0	72.0
70°	62.2	62.2	61.3	62.2	61.3
72.5°	52.4	52.4	51.5	51.5	51.5
75°	43.5	43.5	42.6	42.6	43.5
77.5°	34.7	34.7	33.8	34.7	34.7
80°	26.7	26.7	25.8	26.7	26.7
82.5°	18.7	18.7	18.7	19.5	19.5
85°	11.6	11.6	11.6	11.6	11.6
87.5°	5.3	5.3	5.3	5.3	6.2
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)