

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: P837359

Luminaire Tested: HCSQ420D010-HM40525830-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837359
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ420D010-HM40525830-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

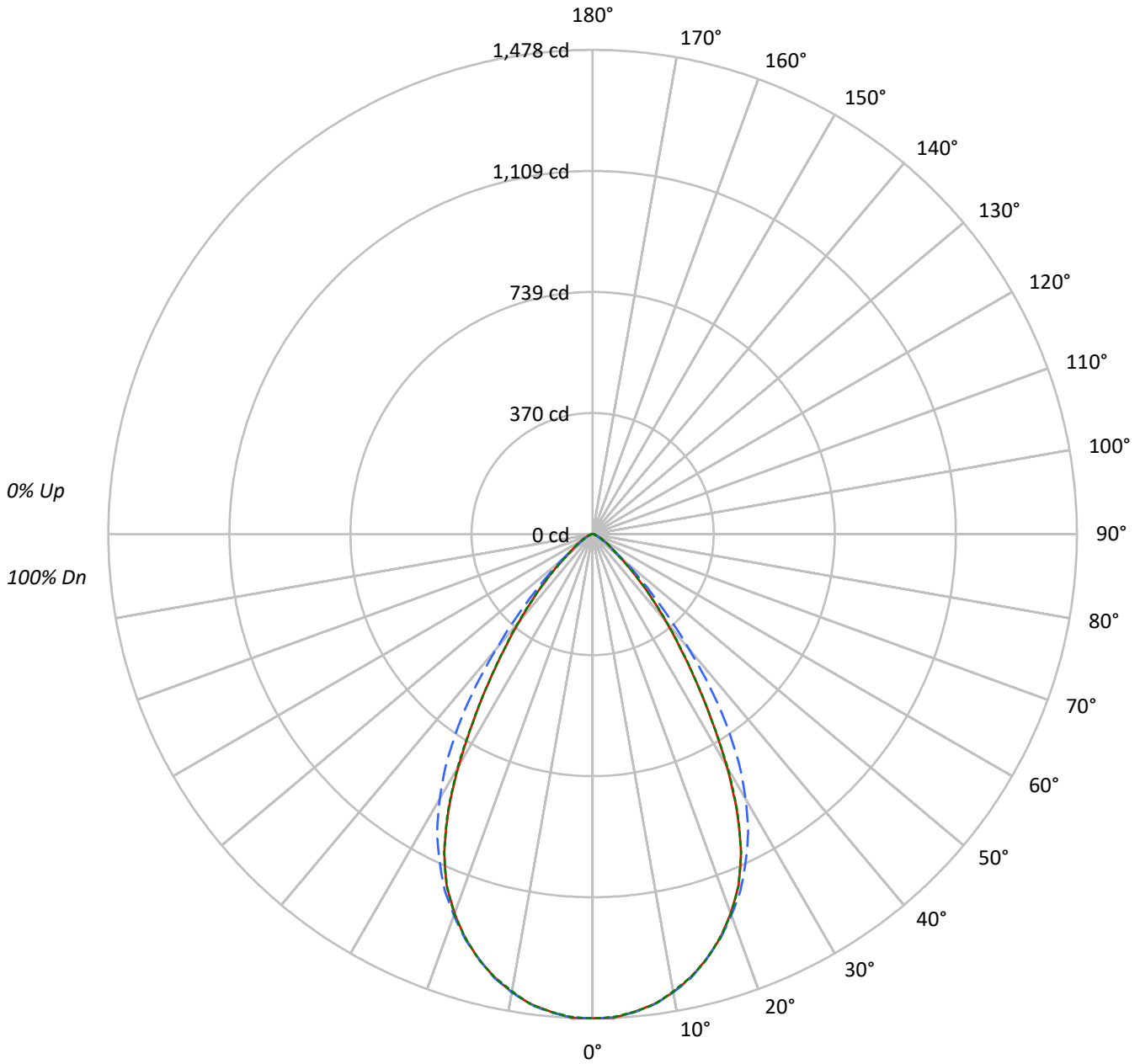
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1661.5 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
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

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92																			
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85																			
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77																			
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71																			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65																			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60																			
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56																			
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52																			
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48																			
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	143192	143192	143192
5°	142319	142494	142319
10°	139646	139734	139380
15°	134683	134593	134784
20°	126969	127629	127247
25°	114565	118082	114565
30°	91503	104468	92219
35°	65317	84534	65423
40°	44097	57490	44793
45°	28017	34018	28140
50°	15960	18161	15418
55°	10489	8783	10337
60°	7246	5134	7072
65°	5020	3759	5020
70°	3626	2832	3626
75°	2396	2396	2396
80°	1506	2064	2064
85°	2001	2001	2001

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 34018 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.5	8.3
10°-20°	376.5	22.7
20°-30°	493.0	29.7
30°-40°	387.4	23.3
40°-50°	181.0	10.9
50°-60°	56.1	3.4
60°-70°	20.0	1.2
70°-80°	7.1	0.4
80°-90°	1.9	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°	1008.0	60.7
0°-40°	1395.4	84.0
0°-60°	1632.5	98.3
0°-90°	1661.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1661.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1478	1478	1478	1478	1478	
5°	1464	1464	1465	1467	1464	138
15°	1343	1343	1342	1343	1344	376
25°	1072	1086	1105	1087	1072	482
35°	552	602	715	610	553	348
45°	204	229	248	225	205	163
55°	62	58	52	58	61	58
65°	22	20	16	19	22	23
75°	6	6	6	6	6	7
85°	2	2	2	2	2	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1478.1	1478.1	1478.1	1478.1	1478.1
2.5°	1478.1	1476.2	1477.1	1475.3	1475.3
5°	1463.5	1464.4	1465.3	1467.1	1463.5
7.5°	1447.0	1448.8	1447.9	1447.9	1447.9
10°	1419.6	1420.5	1420.5	1420.5	1416.9
12.5°	1384.9	1386.8	1387.7	1384.9	1384.9
15°	1342.9	1342.9	1342.0	1342.9	1343.9
17.5°	1292.7	1295.5	1295.5	1292.7	1291.8
20°	1231.6	1236.1	1238.0	1234.3	1234.3
22.5°	1163.1	1167.7	1178.6	1169.5	1162.2
25°	1071.8	1086.4	1104.7	1087.3	1071.8
27.5°	954.0	986.0	1028.0	991.5	956.8
30°	818.0	870.0	933.9	872.8	824.4
32.5°	679.2	737.7	831.7	742.2	679.2
35°	552.3	602.5	714.8	609.8	553.2
37.5°	439.1	487.5	586.1	493.0	445.5
40°	348.7	388.0	454.6	387.1	354.2
42.5°	272.1	300.4	344.2	299.4	271.1
45°	204.5	229.1	248.3	224.6	205.4
47.5°	150.6	167.1	178.0	164.3	147.0
50°	105.9	117.8	120.5	115.0	102.3
52.5°	79.4	79.4	80.3	78.5	77.6
55°	62.1	58.4	52.0	57.5	61.2
57.5°	48.4	44.7	36.5	42.9	47.5
60°	37.4	33.8	26.5	32.9	36.5
62.5°	29.2	25.6	21.0	25.6	28.3
65°	21.9	20.1	16.4	19.2	21.9
67.5°	16.4	14.6	12.8	14.6	16.4
70°	12.8	11.9	10.0	11.0	12.8
72.5°	9.1	8.2	8.2	8.2	9.1
75°	6.4	6.4	6.4	6.4	6.4
77.5°	4.6	4.6	4.6	4.6	4.6
80°	2.7	2.7	3.7	3.7	3.7
82.5°	1.8	1.8	2.7	2.7	2.7
85°	1.8	1.8	1.8	1.8	1.8
87.5°	0.9	0.9	0.9	1.8	1.8
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



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Scaled Data Report





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

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