

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: P837364

Luminaire Tested: HCSQ420D010-HM40525835-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837364
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-HM40525835-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

Summary

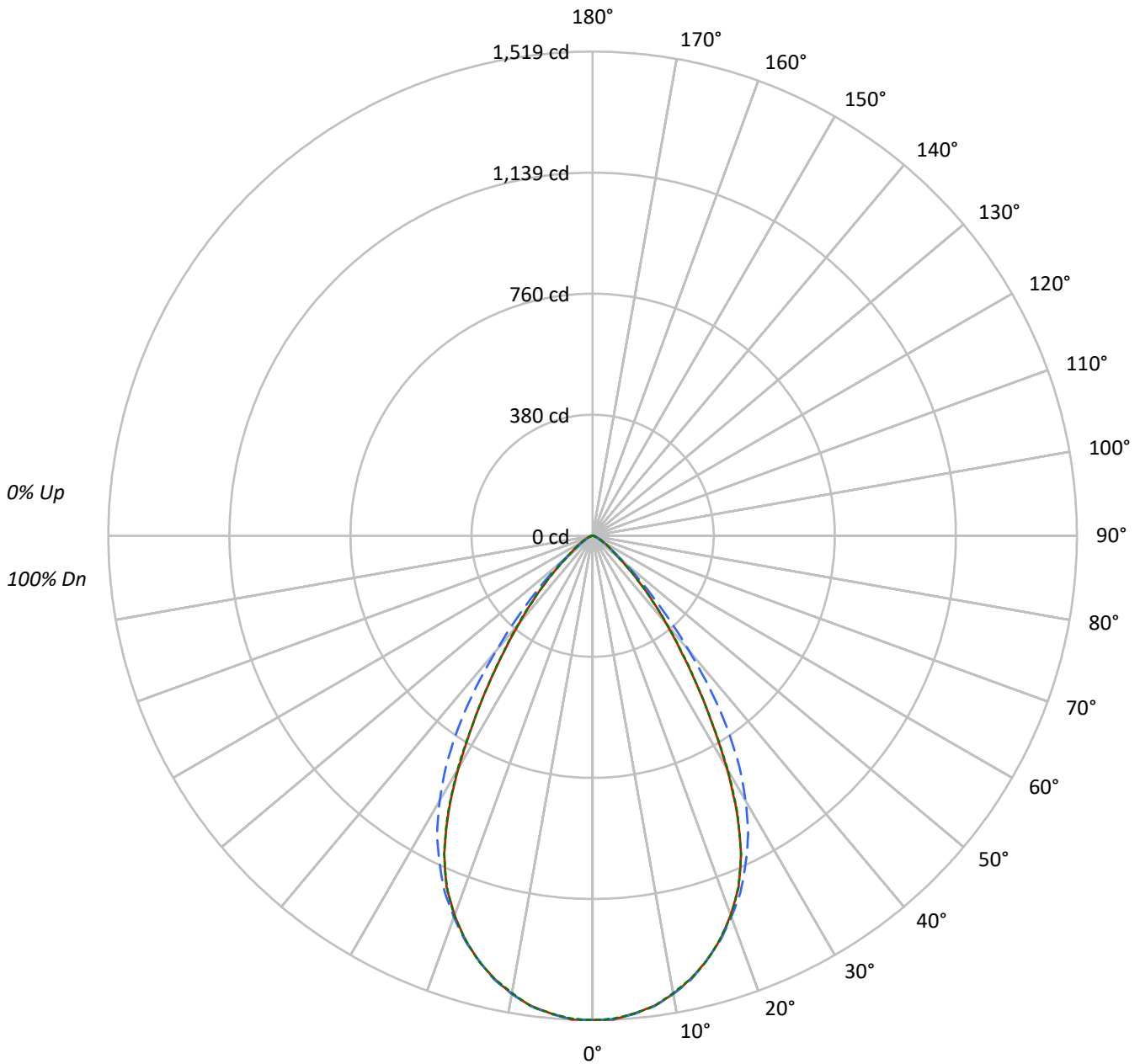
Lumens per Lamp: N/A
Luminaire Lumens: 1707.6 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	147163	147163	147163
5°	146257	146442	146257
10°	143522	143610	143246
15°	138424	138324	138514
20°	130484	131165	130773
25°	117740	121352	117740
30°	94042	107365	94781
35°	67138	86888	67244
40°	45324	59096	46032
45°	28798	34963	28921
50°	16397	18673	15840
55°	10776	9036	10624
60°	7459	5270	7266
65°	5158	3874	5158
70°	3711	2917	3711
75°	2470	2470	2470
80°	1562	2120	2120
85°	2112	2112	2112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 34963 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.3	8.3
10°-20°	387.0	22.7
20°-30°	506.6	29.7
30°-40°	398.2	23.3
40°-50°	186.0	10.9
50°-60°	57.6	3.4
60°-70°	20.6	1.2
70°-80°	7.2	0.4
80°-90°	2.0	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°	1035.9	60.7
0°-40°	1434.1	84.0
0°-60°	1677.8	98.3
0°-90°	1707.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1707.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1519	1519	1519	1519	1519	
5°	1504	1505	1506	1508	1504	142
15°	1380	1380	1379	1380	1381	387
25°	1102	1116	1135	1118	1102	495
35°	568	619	735	627	569	358
45°	210	236	255	231	211	167
55°	64	60	54	59	63	60
65°	22	21	17	20	22	23
75°	7	7	7	7	7	8
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°	1519.1	1519.1	1519.1	1519.1	1519.1
2.5°	1519.1	1517.2	1518.1	1516.2	1516.2
5°	1504.0	1505.0	1505.9	1507.8	1504.0
7.5°	1487.1	1489.0	1488.1	1488.1	1488.1
10°	1459.0	1459.9	1459.9	1459.9	1456.2
12.5°	1423.3	1425.2	1426.2	1423.3	1423.3
15°	1380.2	1380.2	1379.2	1380.2	1381.1
17.5°	1328.6	1331.4	1331.4	1328.6	1327.6
20°	1265.7	1270.4	1272.3	1268.5	1268.5
22.5°	1195.3	1200.0	1211.3	1201.9	1194.4
25°	1101.5	1116.5	1135.3	1117.5	1101.5
27.5°	980.5	1013.3	1056.5	1019.0	983.3
30°	840.7	894.2	959.8	897.0	847.3
32.5°	698.1	758.1	854.8	762.8	698.1
35°	567.7	619.3	734.7	626.8	568.6
37.5°	451.3	501.0	602.4	506.7	457.9
40°	358.4	398.8	467.3	397.8	364.0
42.5°	279.6	308.7	353.7	307.8	278.7
45°	210.2	235.5	255.2	230.8	211.1
47.5°	154.8	171.7	183.0	168.9	151.1
50°	108.8	121.0	123.9	118.2	105.1
52.5°	81.6	81.6	82.6	80.7	79.8
55°	63.8	60.0	53.5	59.1	62.9
57.5°	49.7	46.0	37.5	44.1	48.8
60°	38.5	34.7	27.2	33.8	37.5
62.5°	30.0	26.3	21.6	26.3	29.1
65°	22.5	20.6	16.9	19.7	22.5
67.5°	16.9	15.0	13.1	15.0	16.9
70°	13.1	12.2	10.3	11.3	13.1
72.5°	9.4	8.4	8.4	8.4	9.4
75°	6.6	6.6	6.6	6.6	6.6
77.5°	4.7	4.7	4.7	4.7	4.7
80°	2.8	2.8	3.8	3.8	3.8
82.5°	1.9	1.9	2.8	2.8	2.8
85°	1.9	1.9	1.9	1.9	1.9
87.5°	0.9	0.9	0.9	1.9	1.9
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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