

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: P837379

Luminaire Tested: HCSQ420D010-HM40525930-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837379
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-HM40525930-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

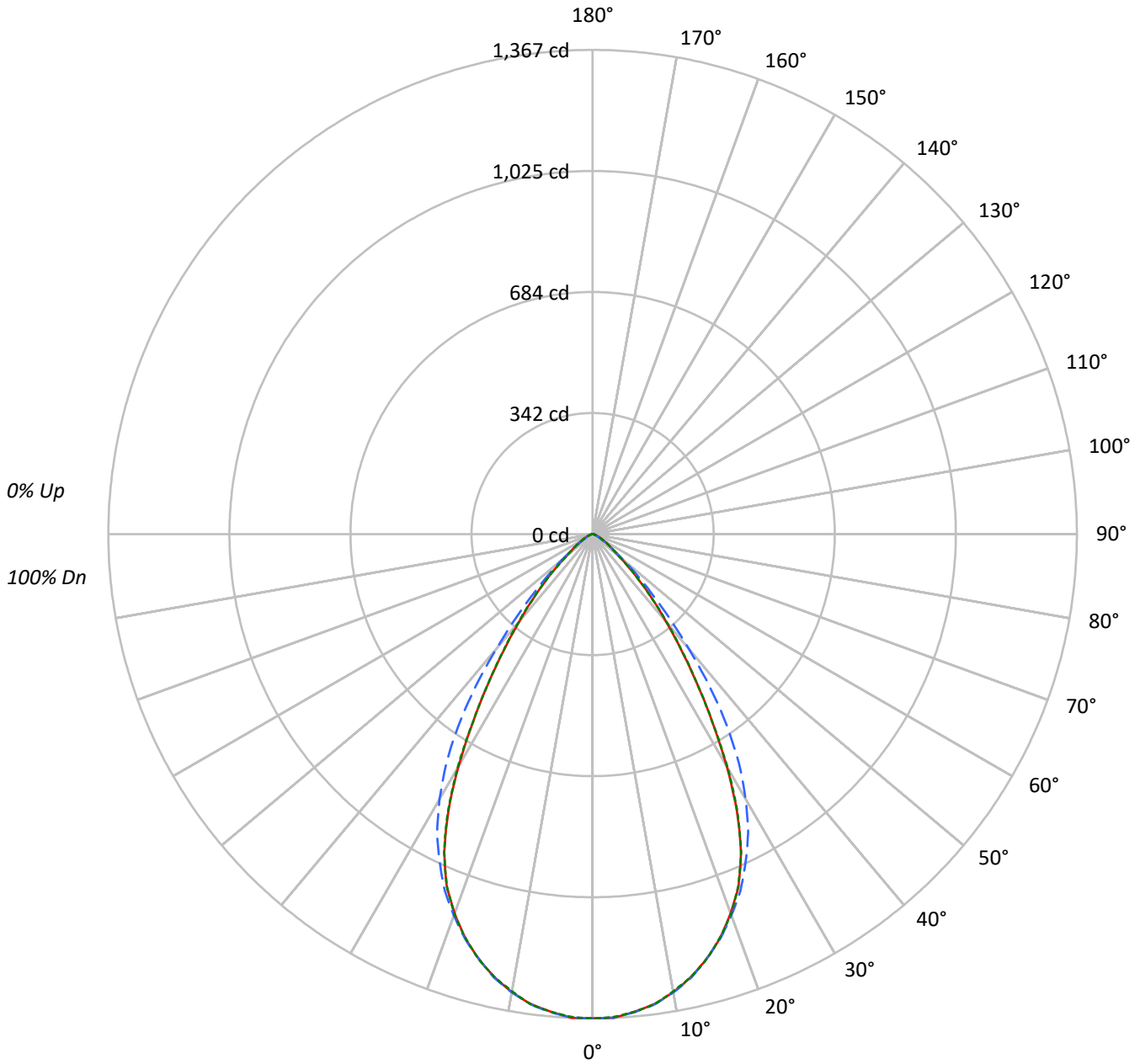
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1536.8 lumens
Efficiency: N/A
Efficacy: 76.8 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°	132438	132438	132438
5°	131631	131797	131631
10°	129170	129248	128924
15°	124584	124493	124664
20°	117433	118051	117701
25°	105971	109220	105971
30°	84635	96638	85295
35°	60421	78196	60515
40°	40797	53177	41429
45°	25921	31469	26030
50°	14770	16804	14257
55°	9695	8124	9560
60°	6704	4747	6549
65°	4653	3484	4653
70°	3342	2634	3342
75°	2208	2208	2208
80°	1395	1897	1897
85°	1890	1890	1890

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 31469 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.1	8.3
10°-20°	348.3	22.7
20°-30°	456.0	29.7
30°-40°	358.4	23.3
40°-50°	167.4	10.9
50°-60°	51.9	3.4
60°-70°	18.5	1.2
70°-80°	6.5	0.4
80°-90°	1.8	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°	932.3	60.7
0°-40°	1290.7	84.0
0°-60°	1510.0	98.3
0°-90°	1536.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1536.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1354	1354	1355	1357	1354	128
15°	1242	1242	1241	1242	1243	348
25°	991	1005	1022	1006	991	446
35°	511	557	661	564	512	322
45°	189	212	230	208	190	151
55°	57	54	48	53	57	54
65°	20	19	15	18	20	21
75°	6	6	6	6	6	7
85°	2	2	2	2	2	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1367.1	1367.1	1367.1	1367.1	1367.1
2.5°	1367.1	1365.5	1366.3	1364.6	1364.6
5°	1353.6	1354.5	1355.3	1357.0	1353.6
7.5°	1338.4	1340.1	1339.3	1339.3	1339.3
10°	1313.1	1313.9	1313.9	1313.9	1310.6
12.5°	1281.0	1282.7	1283.5	1281.0	1281.0
15°	1242.2	1242.2	1241.3	1242.2	1243.0
17.5°	1195.7	1198.3	1198.3	1195.7	1194.9
20°	1139.1	1143.4	1145.1	1141.7	1141.7
22.5°	1075.8	1080.0	1090.2	1081.7	1075.0
25°	991.4	1004.9	1021.8	1005.7	991.4
27.5°	882.4	912.0	950.8	917.1	885.0
30°	756.6	804.7	863.9	807.3	762.5
32.5°	628.3	682.3	769.3	686.5	628.3
35°	510.9	557.3	661.2	564.1	511.7
37.5°	406.2	450.9	542.1	456.0	412.1
40°	322.6	358.9	420.5	358.0	327.6
42.5°	251.6	277.8	318.4	277.0	250.8
45°	189.2	212.0	229.7	207.7	190.0
47.5°	139.3	154.5	164.7	152.0	136.0
50°	98.0	108.9	111.5	106.4	94.6
52.5°	73.5	73.5	74.3	72.6	71.8
55°	57.4	54.0	48.1	53.2	56.6
57.5°	44.8	41.4	33.8	39.7	43.9
60°	34.6	31.2	24.5	30.4	33.8
62.5°	27.0	23.6	19.4	23.6	26.2
65°	20.3	18.6	15.2	17.7	20.3
67.5°	15.2	13.5	11.8	13.5	15.2
70°	11.8	11.0	9.3	10.1	11.8
72.5°	8.4	7.6	7.6	7.6	8.4
75°	5.9	5.9	5.9	5.9	5.9
77.5°	4.2	4.2	4.2	4.2	4.2
80°	2.5	2.5	3.4	3.4	3.4
82.5°	1.7	1.7	2.5	2.5	2.5
85°	1.7	1.7	1.7	1.7	1.7
87.5°	0.8	0.8	0.8	1.7	1.7
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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