

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: P837523

Luminaire Tested: HCSQ440D010-HM43040835-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837523
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ440D010-HM43040835-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

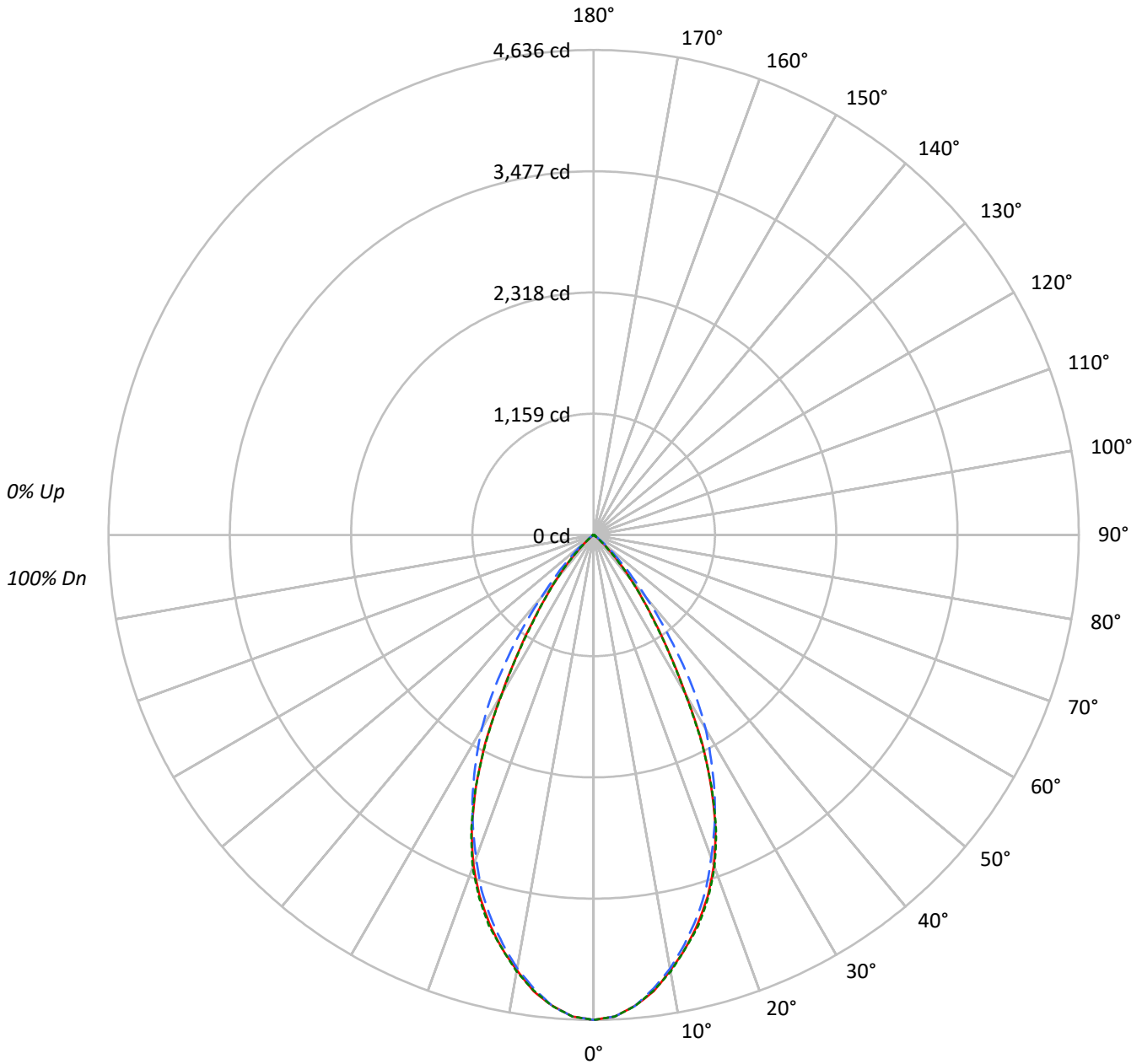
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3746.4 lumens
Efficiency: N/A
Efficacy: 91.4 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 41
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					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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94					94			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87					87			
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81					81			
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76					76			
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71					71			
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66					66			
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62					62			
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58					58			
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55					55			
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52					52			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	449114	449114	449114
5°	439481	439666	439666
10°	415691	413842	416803
15°	385706	380421	387772
20°	346226	338474	348360
25°	284371	292623	285375
30°	196575	239094	195099
35°	121042	168880	118157
40°	68289	98741	67809
45°	31195	49485	29908
50°	7942	19849	8229
55°	3817	6030	3496
60°	2558	2189	2926
65°	2155	1719	2155
70°	1586	1586	2124
75°	1422	1422	2096
80°	2120	2120	2120
85°	2112	4224	4224

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 49485 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	421.7	11.3
10°-20°	1065.1	28.4
20°-30°	1217.5	32.5
30°-40°	755.8	20.2
40°-50°	238.2	6.4
50°-60°	30.8	0.8
60°-70°	9.1	0.2
70°-80°	4.9	0.1
80°-90°	3.3	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°	2704.3	72.2
0°-40°	3460.1	92.4
0°-60°	3729.1	99.5
0°-90°	3746.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3746.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4636	4636	4636	4636	4636	
5°	4519	4516	4521	4517	4521	422
15°	3846	3818	3793	3818	3866	1072
25°	2660	2698	2738	2698	2670	1194
35°	1024	1182	1428	1153	999	658
45°	228	273	361	275	218	192
55°	23	23	36	23	21	22
65°	9	9	8	9	9	9
75°	4	4	4	4	6	5
85°	2	4	4	4	4	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4636.0	4636.0	4636.0	4636.0	4636.0
2.5°	4607.8	4611.5	4607.8	4615.3	4607.8
5°	4519.3	4515.6	4521.2	4517.4	4521.2
7.5°	4398.9	4376.3	4374.4	4389.5	4391.4
10°	4225.8	4220.2	4207.0	4220.2	4237.1
12.5°	4049.0	4026.4	4007.6	4033.9	4049.0
15°	3845.8	3817.5	3793.1	3817.5	3866.4
17.5°	3621.9	3582.3	3561.6	3589.9	3636.9
20°	3358.4	3317.1	3283.2	3307.6	3379.1
22.5°	3042.4	3038.6	3016.0	3029.2	3055.5
25°	2660.4	2698.0	2737.6	2698.0	2669.8
27.5°	2240.8	2342.4	2432.8	2314.2	2223.9
30°	1757.3	1911.6	2137.4	1900.3	1744.1
32.5°	1358.4	1520.2	1808.1	1499.5	1347.1
35°	1023.5	1181.6	1428.0	1153.3	999.1
37.5°	752.6	871.1	1085.6	863.6	752.6
40°	540.0	617.1	780.8	615.2	536.2
42.5°	374.4	425.2	545.6	421.5	363.1
45°	227.7	272.8	361.2	274.7	218.3
47.5°	120.4	173.1	227.7	165.6	120.4
50°	52.7	92.2	131.7	90.3	54.6
52.5°	28.2	39.5	71.5	39.5	28.2
55°	22.6	22.6	35.7	22.6	20.7
57.5°	16.9	16.9	18.8	16.9	16.9
60°	13.2	13.2	11.3	13.2	15.1
62.5°	11.3	11.3	9.4	11.3	11.3
65°	9.4	9.4	7.5	9.4	9.4
67.5°	7.5	7.5	7.5	7.5	7.5
70°	5.6	5.6	5.6	7.5	7.5
72.5°	5.6	5.6	5.6	5.6	5.6
75°	3.8	3.8	3.8	3.8	5.6
77.5°	3.8	3.8	3.8	3.8	3.8
80°	3.8	3.8	3.8	3.8	3.8
82.5°	1.9	3.8	3.8	3.8	3.8
85°	1.9	3.8	3.8	3.8	3.8
87.5°	1.9	1.9	3.8	3.8	3.8
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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