

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: P837708

Luminaire Tested: HCSQ460D010-HM44560940-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837708
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: HCSQ460D010-HM44560940-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

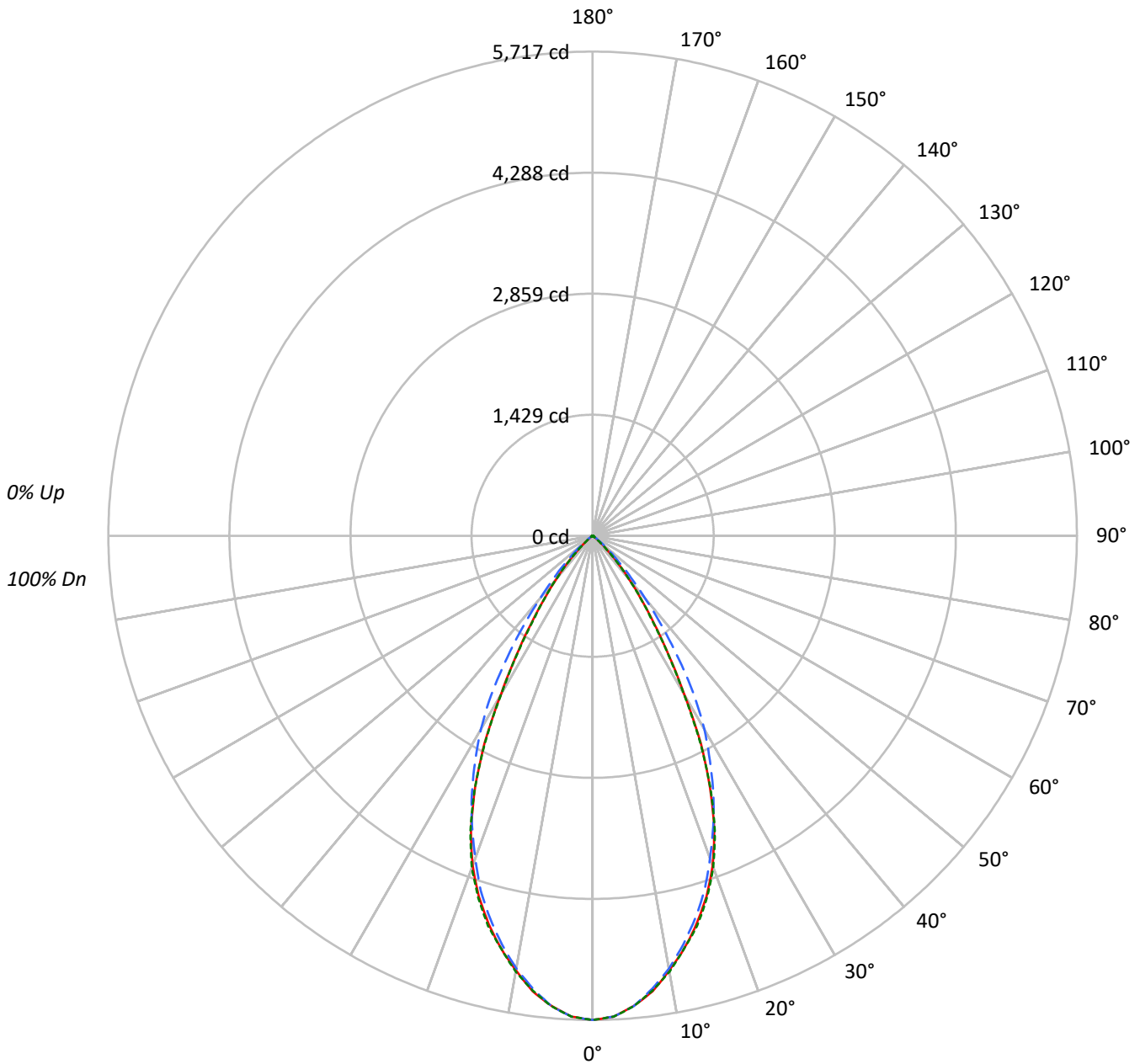
Lumens per Lamp: N/A
Luminaire Lumens: 4620.1 lumens
Efficiency: N/A
Efficacy: 82.5 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 56
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	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°	553856	553856	553856
5°	541988	542212	542212
10°	512645	510363	514012
15°	475659	469140	478216
20°	426979	417412	429618
25°	350696	360861	351936
30°	242428	294857	240604
35°	149272	208273	145712
40°	84211	121770	83629
45°	38470	61035	36881
50°	9796	24476	10143
55°	4695	7448	4307
60°	3139	2693	3604
65°	2659	2132	2659
70°	1983	1983	2634
75°	1722	1722	2620
80°	2566	2566	2566
85°	2556	5113	5113

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 61035 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	520.1	11.3
10°-20°	1313.5	28.4
20°-30°	1501.5	32.5
30°-40°	932.1	20.2
40°-50°	293.7	6.4
50°-60°	38.0	0.8
60°-70°	11.3	0.2
70°-80°	6.0	0.1
80°-90°	4.0	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°	3335.1	72.2
0°-40°	4267.1	92.4
0°-60°	4598.8	99.5
0°-90°	4620.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4620.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5717	5717	5717	5717	5717	
5°	5573	5569	5576	5571	5576	521
15°	4743	4708	4678	4708	4768	1323
25°	3281	3327	3376	3327	3292	1472
35°	1262	1457	1761	1422	1232	811
45°	281	336	446	339	269	237
55°	28	28	44	28	26	27
65°	12	12	9	12	12	11
75°	5	5	5	5	7	6
85°	2	5	5	5	5	3
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5717.2	5717.2	5717.2	5717.2	5717.2
2.5°	5682.4	5687.0	5682.4	5691.7	5682.4
5°	5573.4	5568.7	5575.7	5571.0	5575.7
7.5°	5424.9	5397.0	5394.7	5413.3	5415.6
10°	5211.4	5204.4	5188.2	5204.4	5225.3
12.5°	4993.3	4965.4	4942.2	4974.7	4993.3
15°	4742.7	4707.9	4677.7	4707.9	4768.2
17.5°	4466.6	4417.8	4392.3	4427.1	4485.1
20°	4141.7	4090.7	4048.9	4079.1	4167.3
22.5°	3751.9	3747.3	3719.4	3735.7	3768.2
25°	3280.9	3327.3	3376.0	3327.3	3292.5
27.5°	2763.5	2888.8	3000.1	2854.0	2742.6
30°	2167.2	2357.4	2635.9	2343.5	2150.9
32.5°	1675.3	1874.8	2229.8	1849.3	1661.3
35°	1262.2	1457.1	1761.1	1422.3	1232.1
37.5°	928.1	1074.3	1338.8	1065.0	928.1
40°	665.9	761.1	962.9	758.7	661.3
42.5°	461.7	524.4	672.9	519.7	447.8
45°	280.8	336.4	445.5	338.8	269.2
47.5°	148.5	213.5	280.8	204.2	148.5
50°	65.0	113.7	162.4	111.4	67.3
52.5°	34.8	48.7	88.2	48.7	34.8
55°	27.8	27.8	44.1	27.8	25.5
57.5°	20.9	20.9	23.2	20.9	20.9
60°	16.2	16.2	13.9	16.2	18.6
62.5°	13.9	13.9	11.6	13.9	13.9
65°	11.6	11.6	9.3	11.6	11.6
67.5°	9.3	9.3	9.3	9.3	9.3
70°	7.0	7.0	7.0	9.3	9.3
72.5°	7.0	7.0	7.0	7.0	7.0
75°	4.6	4.6	4.6	4.6	7.0
77.5°	4.6	4.6	4.6	4.6	4.6
80°	4.6	4.6	4.6	4.6	4.6
82.5°	2.3	4.6	4.6	4.6	4.6
85°	2.3	4.6	4.6	4.6	4.6
87.5°	2.3	2.3	4.6	4.6	4.6
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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