

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: P837688

Luminaire Tested: HCSQ460D010-HM44560840-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837688
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-HM44560840-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

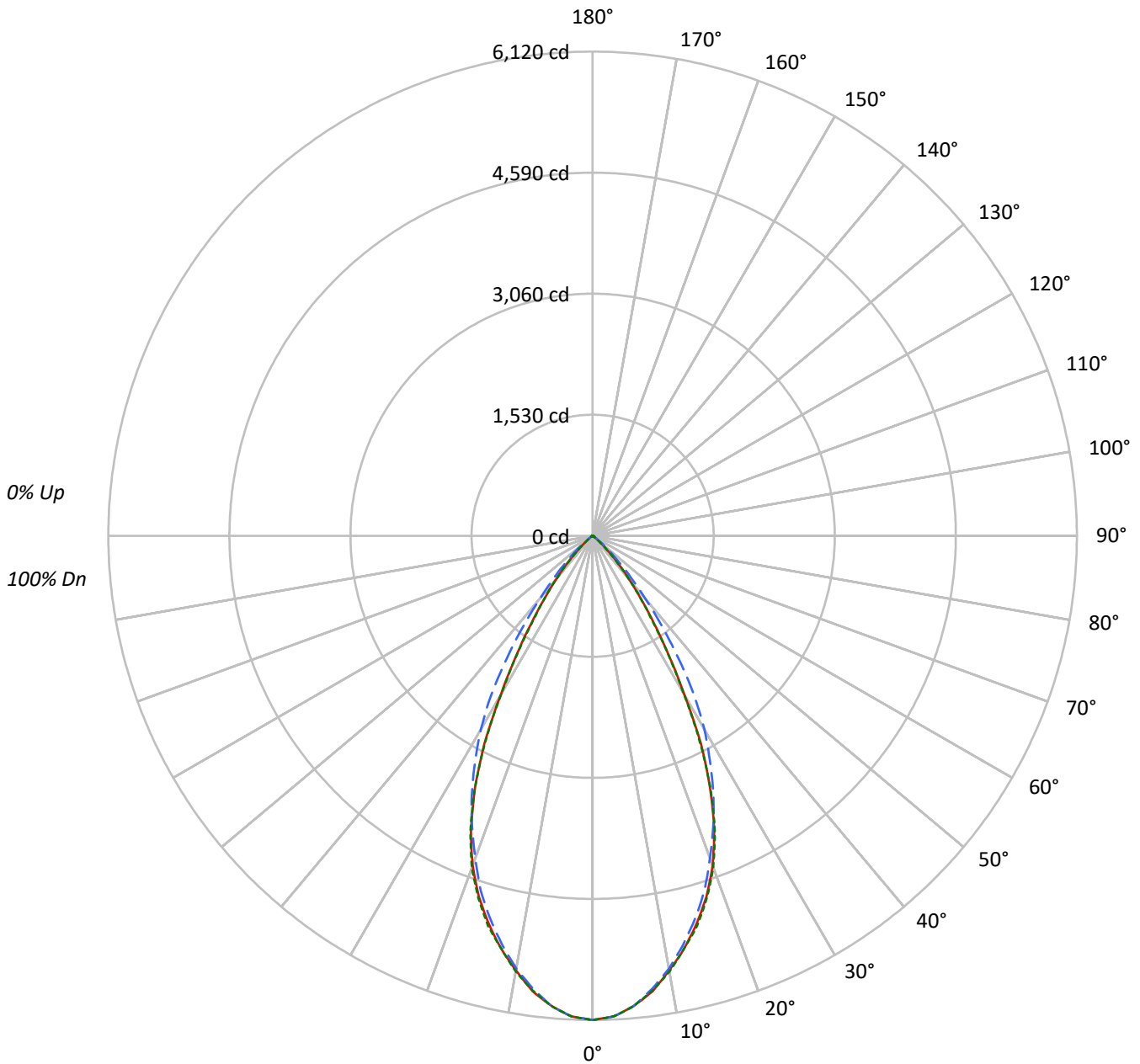
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4945.5 lumens
Efficiency: N/A
Efficacy: 88.3 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										
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								
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94								
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87								
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81								
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76								
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71								
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66								
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62								
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58								
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55								
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	592858	592858	592858
5°	580147	580390	580390
10°	548737	546297	550202
15°	509147	502176	511885
20°	457051	446804	459866
25°	375388	386269	376713
30°	259487	315619	257551
35°	159785	222938	155965
40°	90142	130344	89510
45°	41169	65337	39470
50°	10474	26209	10851
55°	5033	7972	4611
60°	3371	2887	3856
65°	2842	2269	2842
70°	2124	2124	2804
75°	1871	1871	2807
80°	2789	2789	2789
85°	2779	5558	5558

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 65337 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	556.7	11.3
10°-20°	1405.9	28.4
20°-30°	1607.2	32.5
30°-40°	997.7	20.2
40°-50°	314.4	6.4
50°-60°	40.7	0.8
60°-70°	12.0	0.2
70°-80°	6.5	0.1
80°-90°	4.3	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°	3569.9	72.2
0°-40°	4567.6	92.4
0°-60°	4922.7	99.5
0°-90°	4945.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4945.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6120	6120	6120	6120	6120	
5°	5966	5961	5968	5963	5968	558
15°	5077	5039	5007	5039	5104	1416
25°	3512	3562	3614	3562	3524	1576
35°	1351	1560	1885	1522	1319	868
45°	300	360	477	363	288	253
55°	30	30	47	30	27	29
65°	12	12	10	12	12	12
75°	5	5	5	5	8	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°	6119.8	6119.8	6119.8	6119.8	6119.8
2.5°	6082.5	6087.5	6082.5	6092.4	6082.5
5°	5965.8	5960.8	5968.3	5963.3	5968.3
7.5°	5806.8	5777.0	5774.5	5794.4	5796.9
10°	5578.3	5570.9	5553.5	5570.9	5593.2
12.5°	5344.9	5315.1	5290.2	5325.0	5344.9
15°	5076.6	5039.4	5007.1	5039.4	5103.9
17.5°	4781.1	4728.9	4701.6	4738.8	4800.9
20°	4433.4	4378.7	4334.0	4366.3	4460.7
22.5°	4016.1	4011.1	3981.3	3998.7	4033.5
25°	3511.9	3561.6	3613.7	3561.6	3524.3
27.5°	2958.1	3092.2	3211.4	3054.9	2935.7
30°	2319.7	2523.4	2821.5	2508.5	2302.4
32.5°	1793.2	2006.8	2386.8	1979.5	1778.3
35°	1351.1	1559.7	1885.1	1522.5	1318.8
37.5°	993.5	1149.9	1433.1	1140.0	993.5
40°	712.8	814.6	1030.7	812.2	707.8
42.5°	494.3	561.3	720.3	556.3	479.3
45°	300.5	360.1	476.9	362.6	288.1
47.5°	159.0	228.5	300.5	218.6	159.0
50°	69.5	121.7	173.9	119.2	72.0
52.5°	37.3	52.2	94.4	52.2	37.3
55°	29.8	29.8	47.2	29.8	27.3
57.5°	22.4	22.4	24.8	22.4	22.4
60°	17.4	17.4	14.9	17.4	19.9
62.5°	14.9	14.9	12.4	14.9	14.9
65°	12.4	12.4	9.9	12.4	12.4
67.5°	9.9	9.9	9.9	9.9	9.9
70°	7.5	7.5	7.5	9.9	9.9
72.5°	7.5	7.5	7.5	7.5	7.5
75°	5.0	5.0	5.0	5.0	7.5
77.5°	5.0	5.0	5.0	5.0	5.0
80°	5.0	5.0	5.0	5.0	5.0
82.5°	2.5	5.0	5.0	5.0	5.0
85°	2.5	5.0	5.0	5.0	5.0
87.5°	2.5	2.5	5.0	5.0	5.0
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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