

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P837593

Luminaire Tested: HCSQ450D010-HM44560827-41SQC

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837593
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: HCSQ450D010-HM44560827-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

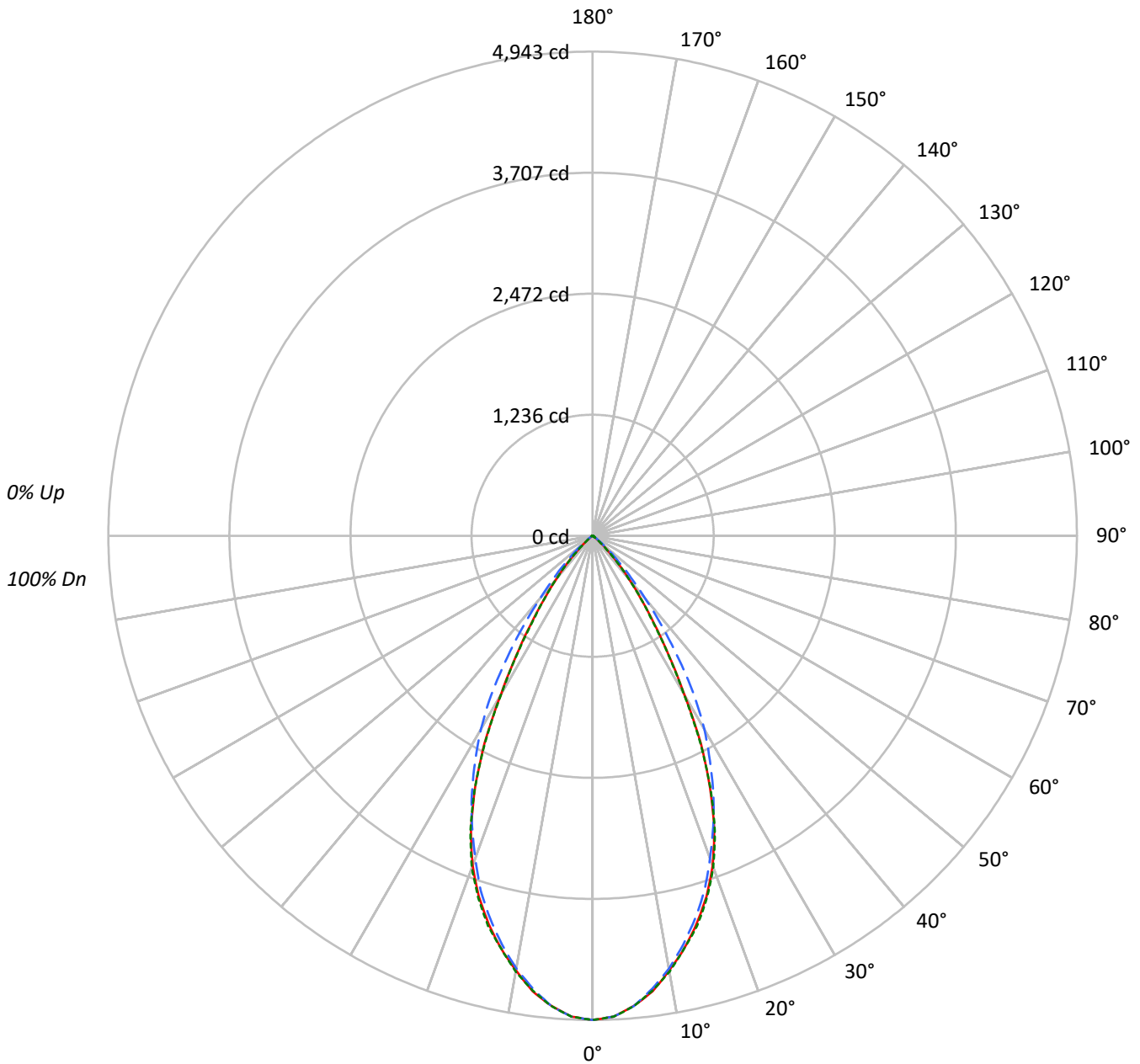
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3994.5 lumens
Efficiency: N/A
Efficacy: 80.4 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): 49.7
Input Voltage (V): NR
Input Current (Ain): 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								
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°	478865	478865	478865
5°	468607	468801	468801
10°	443235	441258	444415
15°	411261	405624	413467
20°	369175	360897	371443
25°	303215	312002	304284
30°	209596	254934	208030
35°	129060	180079	125986
40°	72817	105280	72311
45°	33251	52773	31880
50°	8470	21160	8771
55°	4070	6435	3733
60°	2713	2325	3100
65°	2292	1834	2292
70°	1699	1699	2266
75°	1497	1497	2246
80°	2232	2232	2232
85°	2223	4446	4446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 52773 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	449.7	11.3
10°-20°	1135.6	28.4
20°-30°	1298.2	32.5
30°-40°	805.9	20.2
40°-50°	253.9	6.4
50°-60°	32.9	0.8
60°-70°	9.7	0.2
70°-80°	5.2	0.1
80°-90°	3.5	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°	2883.5	72.2
0°-40°	3689.4	92.4
0°-60°	3976.2	99.5
0°-90°	3994.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3994.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4943	4943	4943	4943	4943	
5°	4819	4815	4821	4817	4821	450
15°	4101	4070	4044	4070	4123	1143
25°	2837	2877	2919	2877	2847	1273
35°	1091	1260	1523	1230	1065	701
45°	243	291	385	293	233	205
55°	24	24	38	24	22	24
65°	10	10	8	10	10	10
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°	4943.1	4943.1	4943.1	4943.1	4943.1
2.5°	4913.0	4917.1	4913.0	4921.1	4913.0
5°	4818.8	4814.7	4820.8	4816.7	4820.8
7.5°	4690.4	4666.3	4664.3	4680.3	4682.3
10°	4505.8	4499.8	4485.7	4499.8	4517.8
12.5°	4317.2	4293.1	4273.1	4301.2	4317.2
15°	4100.6	4070.5	4044.4	4070.5	4122.6
17.5°	3861.8	3819.7	3797.6	3827.7	3877.9
20°	3581.0	3536.8	3500.7	3526.8	3603.0
22.5°	3243.9	3239.9	3215.8	3229.9	3258.0
25°	2836.7	2876.8	2918.9	2876.8	2846.7
27.5°	2389.3	2497.6	2593.9	2467.6	2371.3
30°	1873.7	2038.2	2279.0	2026.2	1859.7
32.5°	1448.4	1621.0	1927.9	1598.9	1436.4
35°	1091.3	1259.9	1522.7	1229.8	1065.3
37.5°	802.5	928.8	1157.5	920.8	802.5
40°	575.8	658.0	832.5	656.0	571.8
42.5°	399.2	453.4	581.8	449.4	387.2
45°	242.7	290.9	385.2	292.9	232.7
47.5°	128.4	184.6	242.7	176.5	128.4
50°	56.2	98.3	140.4	96.3	58.2
52.5°	30.1	42.1	76.2	42.1	30.1
55°	24.1	24.1	38.1	24.1	22.1
57.5°	18.1	18.1	20.1	18.1	18.1
60°	14.0	14.0	12.0	14.0	16.0
62.5°	12.0	12.0	10.0	12.0	12.0
65°	10.0	10.0	8.0	10.0	10.0
67.5°	8.0	8.0	8.0	8.0	8.0
70°	6.0	6.0	6.0	8.0	8.0
72.5°	6.0	6.0	6.0	6.0	6.0
75°	4.0	4.0	4.0	4.0	6.0
77.5°	4.0	4.0	4.0	4.0	4.0
80°	4.0	4.0	4.0	4.0	4.0
82.5°	2.0	4.0	4.0	4.0	4.0
85°	2.0	4.0	4.0	4.0	4.0
87.5°	2.0	2.0	4.0	4.0	4.0
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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