

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: P837599

Luminaire Tested: HCSQ450D010-HM44560830-41SQH

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837599
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: HCSQ450D010-HM44560830-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

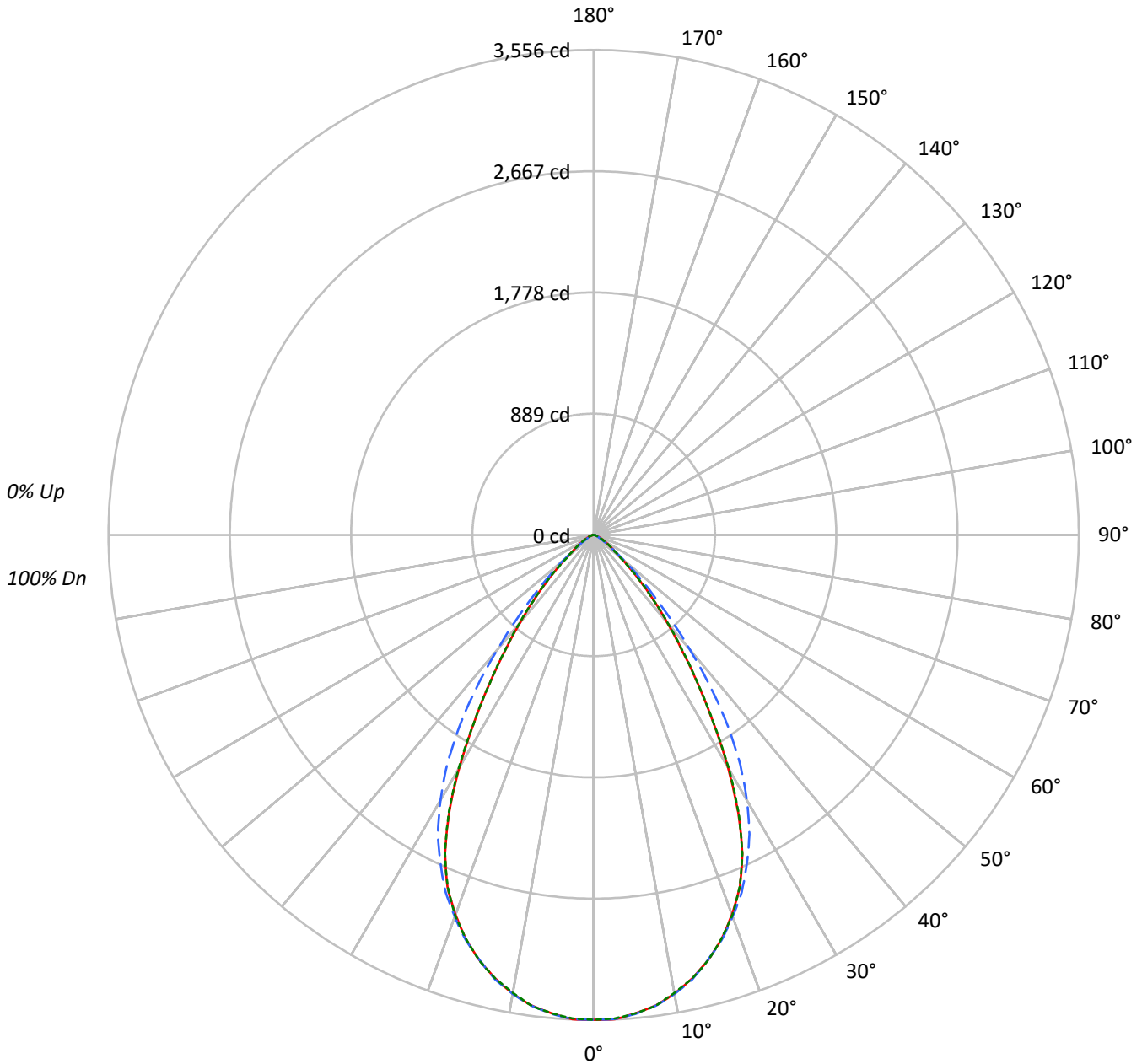
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3997.1 lumens
Efficiency: N/A
Efficacy: 80.4 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): 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										
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°	344470	344470	344470
5°	342372	342800	342372
10°	335963	336179	335313
15°	324026	323805	324247
20°	305443	307031	306123
25°	275616	284071	275616
30°	220133	251332	221856
35°	157148	203377	157408
40°	106102	138324	107771
45°	67405	81845	67707
50°	38401	43691	37075
55°	25233	21146	24862
60°	17438	12342	17031
65°	12080	9054	12080
70°	8696	6855	8696
75°	5764	5764	5764
80°	3682	4909	4909
85°	4891	4891	4891

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 81845 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	333.1	8.3
10°-20°	905.8	22.7
20°-30°	1186.0	29.7
30°-40°	932.1	23.3
40°-50°	435.4	10.9
50°-60°	134.9	3.4
60°-70°	48.1	1.2
70°-80°	17.0	0.4
80°-90°	4.7	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°	2424.9	60.7
0°-40°	3357.0	84.0
0°-60°	3927.3	98.3
0°-90°	3997.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3997.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3556	3556	3556	3556	3556	
5°	3521	3523	3525	3530	3521	333
15°	3231	3231	3229	3231	3233	905
25°	2578	2614	2658	2616	2578	1160
35°	1329	1450	1720	1467	1331	838
45°	492	551	597	540	494	392
55°	149	141	125	138	147	140
65°	53	48	40	46	53	55
75°	15	15	15	15	15	18
85°	4	4	4	4	4	4
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3555.8	3555.8	3555.8	3555.8	3555.8
2.5°	3555.8	3551.5	3553.7	3549.3	3549.3
5°	3520.7	3522.9	3525.1	3529.5	3520.7
7.5°	3481.2	3485.6	3483.4	3483.4	3483.4
10°	3415.3	3417.5	3417.5	3417.5	3408.7
12.5°	3331.8	3336.2	3338.4	3331.8	3331.8
15°	3230.8	3230.8	3228.6	3230.8	3233.0
17.5°	3110.0	3116.6	3116.6	3110.0	3107.8
20°	2962.8	2973.8	2978.2	2969.4	2969.4
22.5°	2798.1	2809.1	2835.5	2813.5	2795.9
25°	2578.5	2613.6	2657.6	2615.8	2578.5
27.5°	2295.2	2372.0	2473.1	2385.2	2301.7
30°	1967.9	2093.1	2246.8	2099.7	1983.3
32.5°	1634.1	1774.6	2000.9	1785.6	1634.1
35°	1328.8	1449.6	1719.7	1467.1	1331.0
37.5°	1056.4	1172.8	1410.0	1186.0	1071.8
40°	839.0	933.4	1093.8	931.2	852.2
42.5°	654.5	722.6	828.0	720.4	652.3
45°	492.0	551.3	597.4	540.3	494.2
47.5°	362.4	401.9	428.3	395.3	353.6
50°	254.8	283.3	289.9	276.7	246.0
52.5°	191.1	191.1	193.3	188.9	186.7
55°	149.4	140.6	125.2	138.4	147.2
57.5°	116.4	107.6	87.9	103.2	114.2
60°	90.0	81.3	63.7	79.1	87.9
62.5°	70.3	61.5	50.5	61.5	68.1
65°	52.7	48.3	39.5	46.1	52.7
67.5°	39.5	35.1	30.7	35.1	39.5
70°	30.7	28.6	24.2	26.4	30.7
72.5°	22.0	19.8	19.8	19.8	22.0
75°	15.4	15.4	15.4	15.4	15.4
77.5°	11.0	11.0	11.0	11.0	11.0
80°	6.6	6.6	8.8	8.8	8.8
82.5°	4.4	4.4	6.6	6.6	6.6
85°	4.4	4.4	4.4	4.4	4.4
87.5°	2.2	2.2	2.2	4.4	4.4
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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