

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: P837503

Luminaire Tested: HCSQ435D010-HM43040935-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837503
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: HCSQ435D010-HM43040935-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

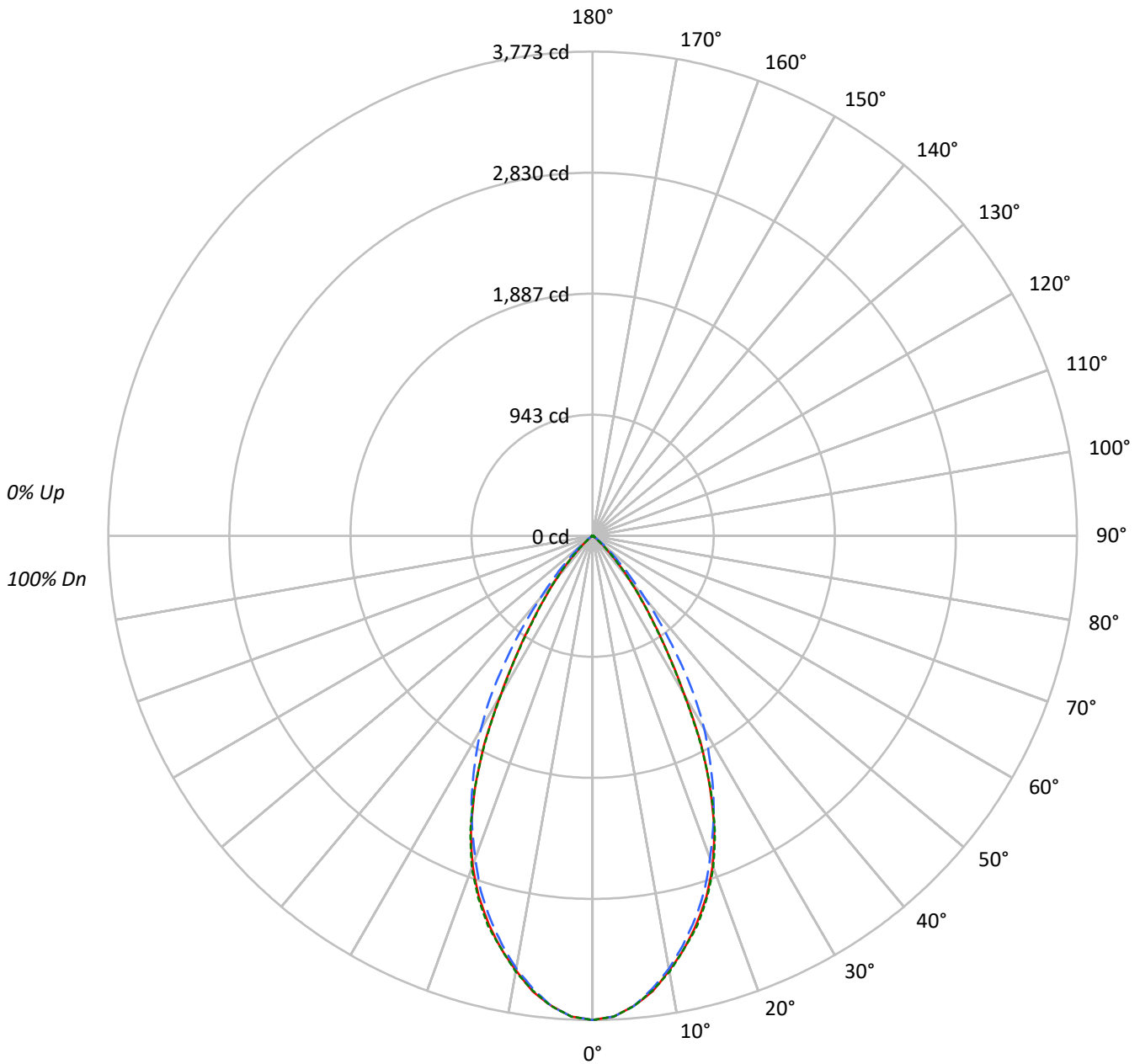
Lumens per Lamp: N/A
Luminaire Lumens: 3049.1 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 34
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									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°	365511	365511	365511
5°	357679	357824	357824
10°	338314	336809	339219
15°	313907	309604	315591
20°	281783	275474	283515
25°	231439	238151	232262
30°	159985	194584	158788
35°	98513	137445	96160
40°	55580	80367	55188
45°	25387	40279	24332
50°	6466	16156	6692
55°	3108	4915	2837
60°	2073	1783	2383
65°	1765	1398	1765
70°	1303	1303	1728
75°	1160	1160	1722
80°	1729	1729	1729
85°	1667	3446	3446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 40279 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	343.2	11.3
10°-20°	866.8	28.4
20°-30°	990.9	32.5
30°-40°	615.1	20.2
40°-50°	193.8	6.4
50°-60°	25.1	0.8
60°-70°	7.4	0.2
70°-80°	4.0	0.1
80°-90°	2.7	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°	2200.9	72.2
0°-40°	2816.0	92.4
0°-60°	3035.0	99.5
0°-90°	3049.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3049.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3773	3773	3773	3773	3773	
5°	3678	3675	3680	3677	3680	344
15°	3130	3107	3087	3107	3147	873
25°	2165	2196	2228	2196	2173	971
35°	833	962	1162	939	813	535
45°	185	222	294	224	178	156
55°	18	18	29	18	17	18
65°	8	8	6	8	8	8
75°	3	3	3	3	5	4
85°	2	3	3	3	3	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3773.0	3773.0	3773.0	3773.0	3773.0
2.5°	3750.1	3753.1	3750.1	3756.2	3750.1
5°	3678.1	3675.0	3679.6	3676.6	3679.6
7.5°	3580.1	3561.7	3560.2	3572.4	3574.0
10°	3439.2	3434.6	3423.9	3434.6	3448.4
12.5°	3295.3	3276.9	3261.6	3283.0	3295.3
15°	3129.9	3106.9	3087.0	3106.9	3146.7
17.5°	2947.7	2915.5	2898.7	2921.6	2959.9
20°	2733.3	2699.6	2672.1	2692.0	2750.1
22.5°	2476.1	2473.0	2454.6	2465.3	2486.8
25°	2165.2	2195.8	2228.0	2195.8	2172.9
27.5°	1823.7	1906.4	1979.9	1883.5	1810.0
30°	1430.2	1555.8	1739.5	1546.6	1419.5
32.5°	1105.6	1237.3	1471.5	1220.4	1096.4
35°	833.0	961.6	1162.2	938.7	813.1
37.5°	612.5	709.0	883.5	702.8	612.5
40°	439.5	502.3	635.5	500.7	436.4
42.5°	304.7	346.1	444.1	343.0	295.5
45°	185.3	222.0	294.0	223.6	177.6
47.5°	98.0	140.9	185.3	134.8	98.0
50°	42.9	75.0	107.2	73.5	44.4
52.5°	23.0	32.2	58.2	32.2	23.0
55°	18.4	18.4	29.1	18.4	16.8
57.5°	13.8	13.8	15.3	13.8	13.8
60°	10.7	10.7	9.2	10.7	12.3
62.5°	9.2	9.2	7.7	9.2	9.2
65°	7.7	7.7	6.1	7.7	7.7
67.5°	6.1	6.1	6.1	6.1	6.1
70°	4.6	4.6	4.6	6.1	6.1
72.5°	4.6	4.6	4.6	4.6	4.6
75°	3.1	3.1	3.1	3.1	4.6
77.5°	3.1	3.1	3.1	3.1	3.1
80°	3.1	3.1	3.1	3.1	3.1
82.5°	1.5	3.1	3.1	3.1	3.1
85°	1.5	3.1	3.1	3.1	3.1
87.5°	1.5	1.5	3.1	3.1	3.1
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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