

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: P837489

Luminaire Tested: HCSQ435D010-HM43040840-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837489
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: HCSQ435D010-HM43040840-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

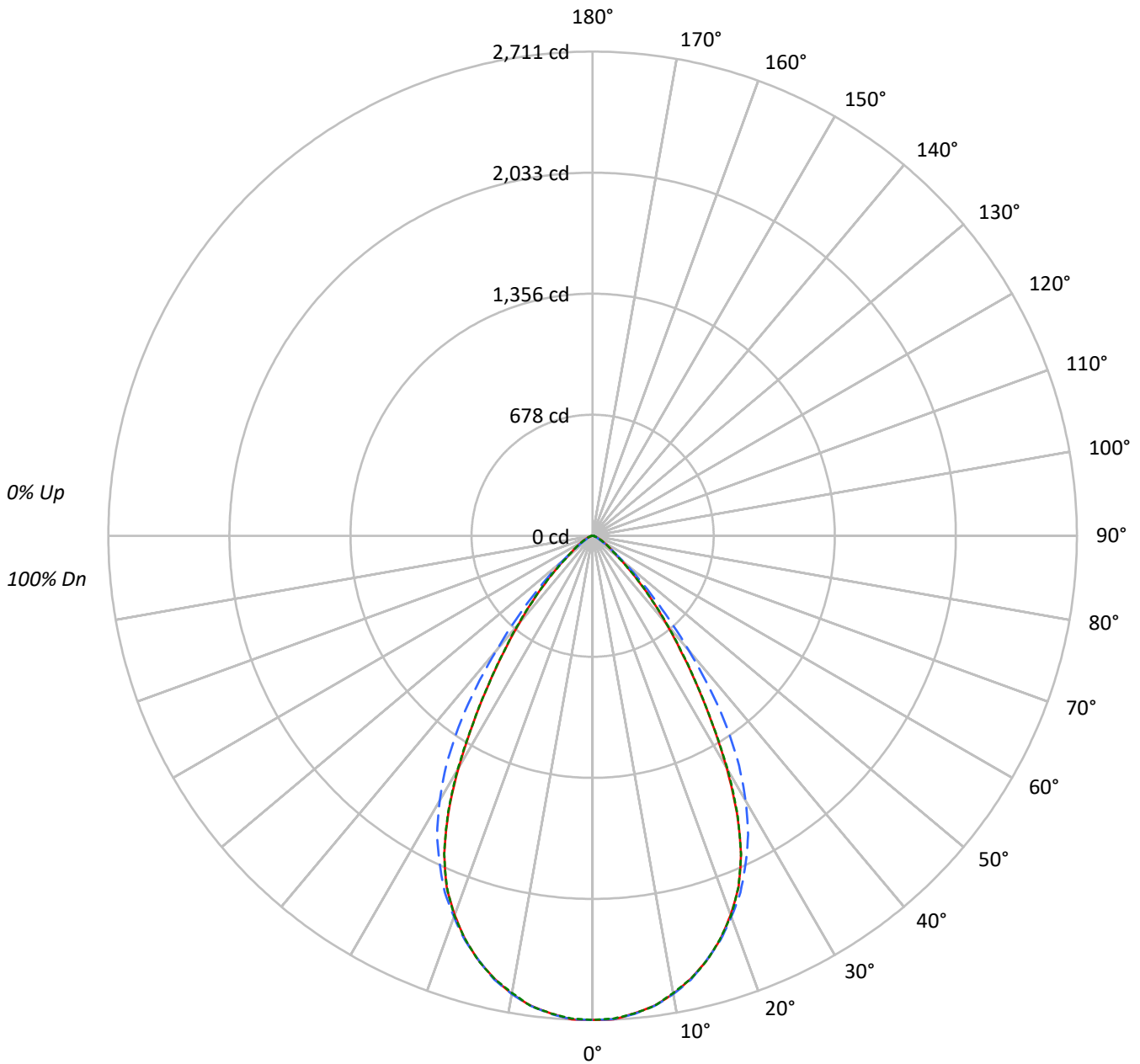
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3047.2 lumens
Efficiency: N/A
Efficacy: 89.6 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): 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			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°	262620	262620	262620
5°	261017	261337	261017
10°	256126	256293	255634
15°	247021	246861	247192
20°	232866	234072	233381
25°	210114	216560	210114
30°	167827	191609	169136
35°	119800	155055	120002
40°	80885	105457	82162
45°	51390	62391	51609
50°	29268	33307	28258
55°	19237	16113	18950
60°	13311	9416	12981
65°	9215	6900	9215
70°	6628	5212	6628
75°	4379	4379	4379
80°	2789	3738	3738
85°	3668	3668	3668

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 62391 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.0	8.3
10°-20°	690.6	22.7
20°-30°	904.1	29.7
30°-40°	710.6	23.3
40°-50°	331.9	10.9
50°-60°	102.9	3.4
60°-70°	36.7	1.2
70°-80°	12.9	0.4
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°	1848.7	60.7
0°-40°	2559.3	84.0
0°-60°	2994.1	98.3
0°-90°	3047.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3047.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2711	2711	2711	2711	2711	
5°	2684	2686	2687	2691	2684	254
15°	2463	2463	2461	2463	2465	690
25°	1966	1992	2026	1994	1966	884
35°	1013	1105	1311	1118	1015	639
45°	375	420	455	412	377	299
55°	114	107	95	106	112	107
65°	40	37	30	35	40	42
75°	12	12	12	12	12	13
85°	3	3	3	3	3	3
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2710.9	2710.9	2710.9	2710.9	2710.9
2.5°	2710.9	2707.5	2709.2	2705.8	2705.8
5°	2684.1	2685.7	2687.4	2690.8	2684.1
7.5°	2653.9	2657.3	2655.6	2655.6	2655.6
10°	2603.7	2605.4	2605.4	2605.4	2598.7
12.5°	2540.1	2543.4	2545.1	2540.1	2540.1
15°	2463.0	2463.0	2461.4	2463.0	2464.7
17.5°	2371.0	2376.0	2376.0	2371.0	2369.3
20°	2258.8	2267.1	2270.5	2263.8	2263.8
22.5°	2133.2	2141.6	2161.7	2144.9	2131.5
25°	1965.7	1992.5	2026.0	1994.2	1965.7
27.5°	1749.8	1808.4	1885.4	1818.4	1754.8
30°	1500.3	1595.7	1712.9	1600.7	1512.0
32.5°	1245.8	1352.9	1525.4	1361.3	1245.8
35°	1013.0	1105.1	1311.1	1118.5	1014.7
37.5°	805.4	894.1	1075.0	904.2	817.1
40°	639.6	711.6	833.9	709.9	649.7
42.5°	499.0	550.9	631.2	549.2	497.3
45°	375.1	420.3	455.4	411.9	376.7
47.5°	276.3	306.4	326.5	301.4	269.6
50°	194.2	216.0	221.0	211.0	187.5
52.5°	145.7	145.7	147.3	144.0	142.3
55°	113.9	107.2	95.4	105.5	112.2
57.5°	88.7	82.0	67.0	78.7	87.1
60°	68.7	62.0	48.6	60.3	67.0
62.5°	53.6	46.9	38.5	46.9	51.9
65°	40.2	36.8	30.1	35.2	40.2
67.5°	30.1	26.8	23.4	26.8	30.1
70°	23.4	21.8	18.4	20.1	23.4
72.5°	16.7	15.1	15.1	15.1	16.7
75°	11.7	11.7	11.7	11.7	11.7
77.5°	8.4	8.4	8.4	8.4	8.4
80°	5.0	5.0	6.7	6.7	6.7
82.5°	3.3	3.3	5.0	5.0	5.0
85°	3.3	3.3	3.3	3.3	3.3
87.5°	1.7	1.7	1.7	3.3	3.3
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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