

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: P837492

Luminaire Tested: HCSQ435D010-HM43040840-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837492
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ435D010-HM43040840-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

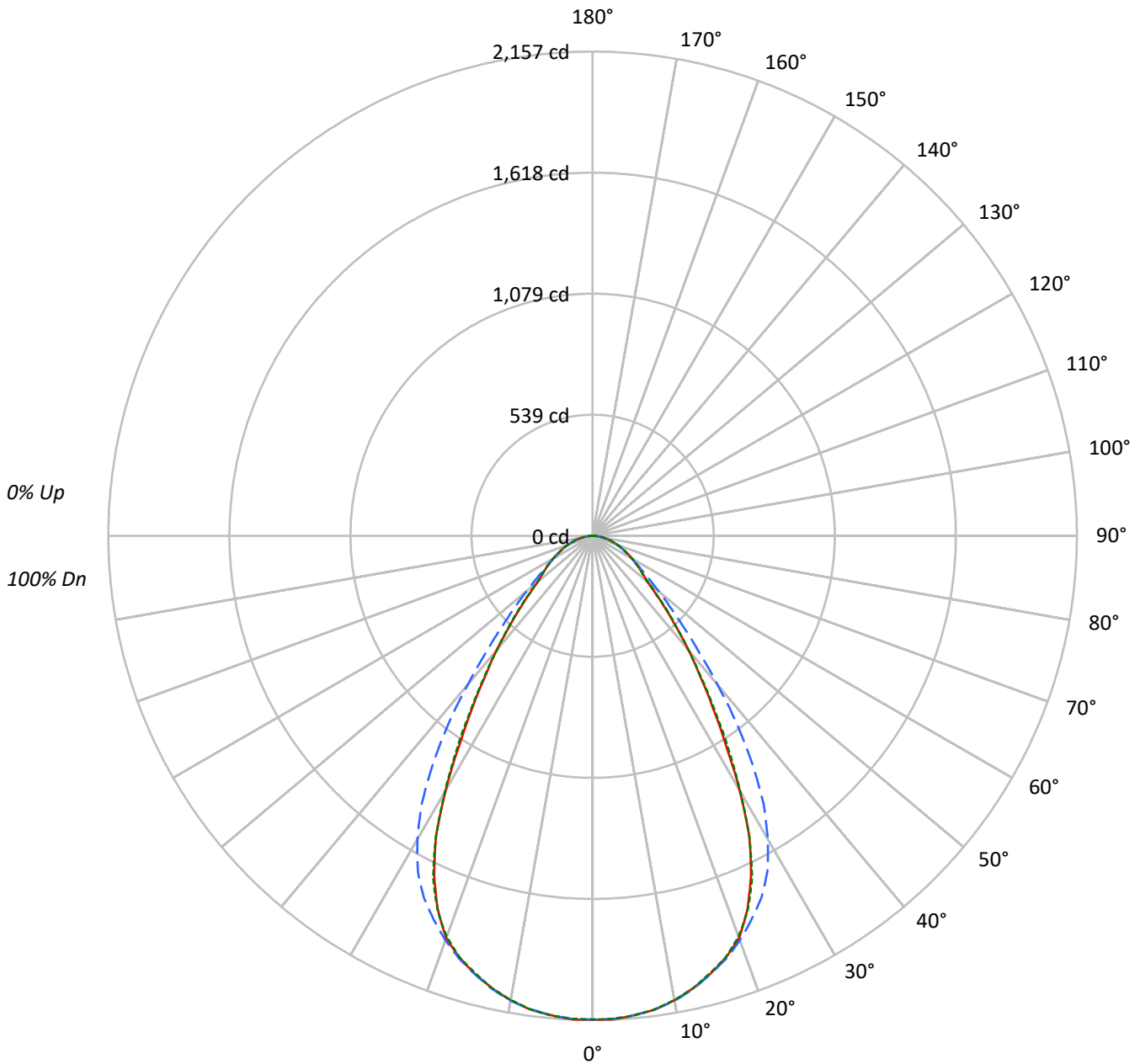
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3127.6 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
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	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89																			
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79																			
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71																			
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64																			
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58																			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48																			
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44																			
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41																			
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	208786	208786	208786
5°	208446	208446	208601
10°	206734	206901	206567
15°	202712	202882	202381
20°	196629	197670	195938
25°	178464	190094	179715
30°	146483	174583	147043
35°	110115	146552	111699
40°	83857	109276	83655
45°	62638	77543	63775
50°	47700	57798	48710
55°	42984	45248	42984
60°	39254	38925	38925
65°	35691	35691	35691
70°	33196	32715	32715
75°	30730	30094	30730
80°	28006	27113	28006
85°	24231	24231	24231

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 77543 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.3	6.5
10°-20°	569.0	18.2
20°-30°	782.6	25.0
30°-40°	666.2	21.3
40°-50°	402.4	12.9
50°-60°	237.2	7.6
60°-70°	155.5	5.0
70°-80°	86.2	2.8
80°-90°	25.2	0.8
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°	1554.9	49.7
0°-40°	2221.1	71.0
0°-60°	2860.6	91.5
0°-90°	3127.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3127.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2155	2155	2155	2155	2155	
5°	2144	2145	2144	2142	2145	203
15°	2021	2026	2023	2021	2018	569
25°	1670	1722	1778	1725	1681	755
35°	931	1025	1239	1053	944	589
45°	457	506	566	511	466	359
55°	254	260	268	260	254	229
65°	156	157	156	156	156	156
75°	82	82	80	80	82	87
85°	22	22	22	22	22	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2155.2	2155.2	2155.2	2155.2	2155.2
2.5°	2156.9	2151.8	2153.5	2151.8	2153.5
5°	2143.5	2145.1	2143.5	2141.8	2145.1
7.5°	2128.4	2126.7	2126.7	2125.0	2128.4
10°	2101.6	2098.2	2103.3	2099.9	2099.9
12.5°	2064.8	2069.8	2068.1	2068.1	2064.8
15°	2021.2	2026.2	2022.9	2021.2	2017.9
17.5°	1971.0	1974.3	1976.0	1969.3	1969.3
20°	1907.3	1914.0	1917.4	1905.7	1900.6
22.5°	1801.8	1832.0	1850.4	1830.3	1805.2
25°	1669.6	1721.5	1778.4	1724.8	1681.3
27.5°	1510.5	1584.1	1686.3	1595.9	1510.5
30°	1309.5	1418.4	1560.7	1430.1	1314.5
32.5°	1101.9	1217.4	1416.7	1237.5	1125.3
35°	931.1	1024.8	1239.2	1053.3	944.5
37.5°	783.7	864.1	1053.3	882.5	792.1
40°	663.1	726.8	864.1	735.1	661.5
42.5°	547.6	607.9	700.0	616.2	554.3
45°	457.2	505.7	566.0	510.7	465.5
47.5°	380.1	420.3	463.9	420.3	385.2
50°	316.5	348.3	383.5	348.3	323.2
52.5°	283.0	293.1	316.5	294.7	283.0
55°	254.5	259.6	267.9	259.6	254.5
57.5°	227.7	231.1	229.4	229.4	227.7
60°	202.6	204.3	200.9	202.6	200.9
62.5°	179.2	179.2	175.8	179.2	177.5
65°	155.7	157.4	155.7	155.7	155.7
67.5°	135.6	135.6	134.0	135.6	135.6
70°	117.2	117.2	115.5	117.2	115.5
72.5°	98.8	98.8	97.1	97.1	97.1
75°	82.1	82.1	80.4	80.4	82.1
77.5°	65.3	65.3	63.6	65.3	65.3
80°	50.2	50.2	48.6	50.2	50.2
82.5°	35.2	35.2	35.2	36.8	36.8
85°	21.8	21.8	21.8	21.8	21.8
87.5°	10.0	10.0	10.0	10.0	11.7
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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