

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: P837508

Luminaire Tested: HCSQ435D010-HM43040940-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837508
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-HM43040940-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

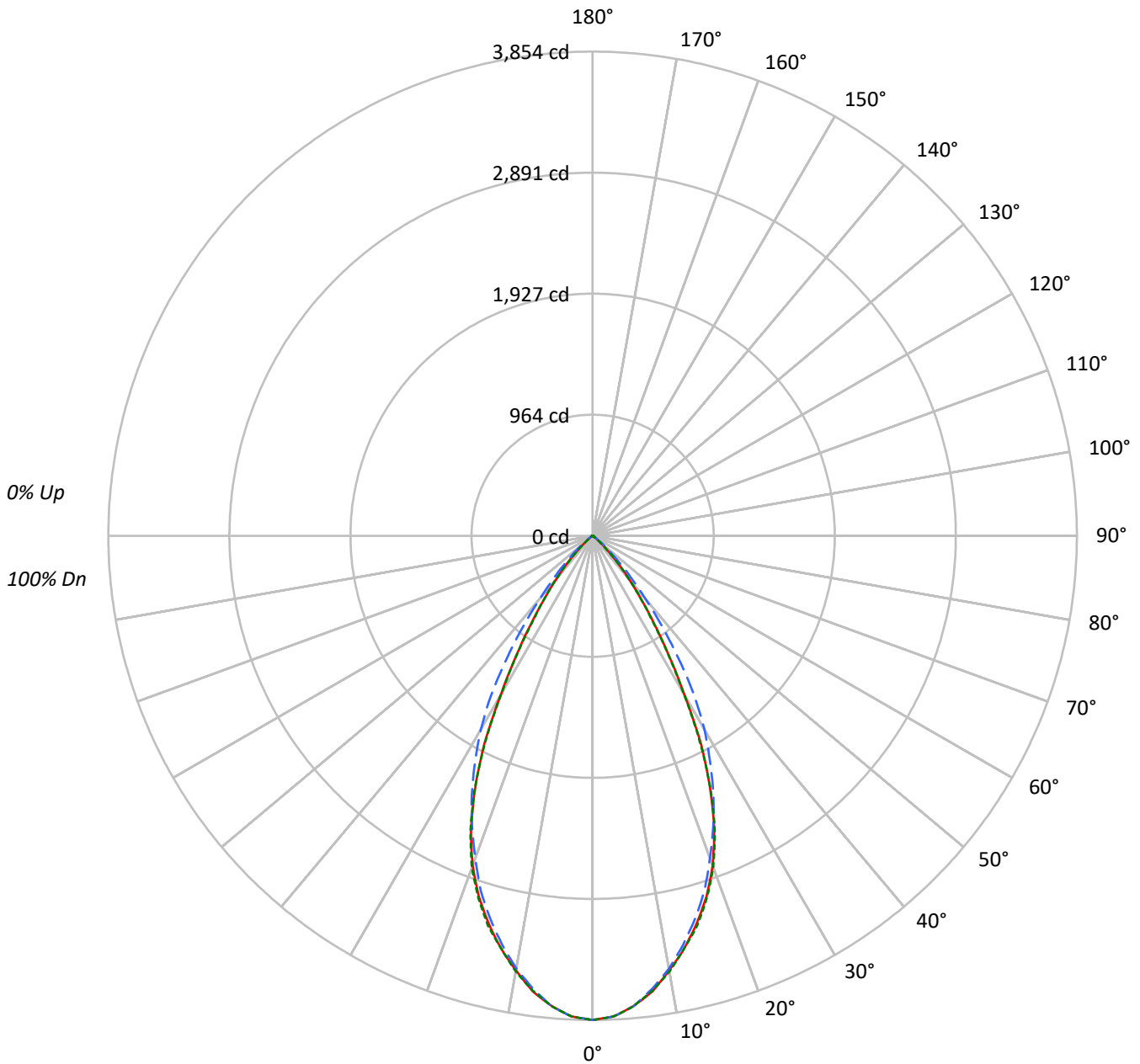
Lumens per Lamp: N/A
Luminaire Lumens: 3114.3 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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°	373339	373339	373339
5°	365332	365487	365487
10°	345554	344019	346478
15°	320626	316233	322351
20°	287814	281361	289587
25°	236388	243250	237232
30°	163408	198745	162189
35°	100618	140390	98217
40°	56769	82086	56377
45°	25921	41142	24852
50°	6601	16503	6842
55°	3175	5016	2905
60°	2112	1821	2422
65°	1788	1444	1788
70°	1331	1331	1784
75°	1160	1160	1759
80°	1729	1729	1729
85°	1778	3446	3446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 41142 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	350.6	11.3
10°-20°	885.4	28.4
20°-30°	1012.1	32.5
30°-40°	628.3	20.2
40°-50°	198.0	6.4
50°-60°	25.6	0.8
60°-70°	7.6	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°	2248.0	72.2
0°-40°	2876.3	92.4
0°-60°	3099.9	99.5
0°-90°	3114.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3114.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3854	3854	3854	3854	3854	
5°	3757	3754	3758	3755	3758	351
15°	3197	3173	3153	3173	3214	891
25°	2212	2243	2276	2243	2219	992
35°	851	982	1187	959	830	547
45°	189	227	300	228	181	160
55°	19	19	30	19	17	19
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°	3853.8	3853.8	3853.8	3853.8	3853.8
2.5°	3830.3	3833.5	3830.3	3836.6	3830.3
5°	3756.8	3753.7	3758.4	3755.3	3758.4
7.5°	3656.7	3638.0	3636.4	3648.9	3650.5
10°	3512.8	3508.1	3497.2	3508.1	3522.2
12.5°	3365.8	3347.0	3331.4	3353.3	3365.8
15°	3196.9	3173.4	3153.1	3173.4	3214.1
17.5°	3010.8	2977.9	2960.7	2984.2	3023.3
20°	2791.8	2757.4	2729.2	2749.6	2809.0
22.5°	2529.0	2525.9	2507.2	2518.1	2540.0
25°	2211.5	2242.8	2275.7	2242.8	2219.4
27.5°	1862.8	1947.2	2022.3	1923.8	1848.7
30°	1460.8	1589.1	1776.7	1579.7	1449.9
32.5°	1129.2	1263.7	1503.0	1246.5	1119.9
35°	850.8	982.2	1187.1	958.8	830.5
37.5°	625.6	724.1	902.4	717.9	625.6
40°	448.9	513.0	649.1	511.4	445.8
42.5°	311.2	353.5	453.6	350.3	301.9
45°	189.2	226.8	300.3	228.3	181.4
47.5°	100.1	143.9	189.2	137.6	100.1
50°	43.8	76.6	109.5	75.1	45.4
52.5°	23.5	32.8	59.4	32.8	23.5
55°	18.8	18.8	29.7	18.8	17.2
57.5°	14.1	14.1	15.6	14.1	14.1
60°	10.9	10.9	9.4	10.9	12.5
62.5°	9.4	9.4	7.8	9.4	9.4
65°	7.8	7.8	6.3	7.8	7.8
67.5°	6.3	6.3	6.3	6.3	6.3
70°	4.7	4.7	4.7	6.3	6.3
72.5°	4.7	4.7	4.7	4.7	4.7
75°	3.1	3.1	3.1	3.1	4.7
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°	1.6	3.1	3.1	3.1	3.1
85°	1.6	3.1	3.1	3.1	3.1
87.5°	1.6	1.6	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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