

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: P837647

Luminaire Tested: HCSQ455D010-HM44560835-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837647
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: HCSQ455D010-HM44560835-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

Summary

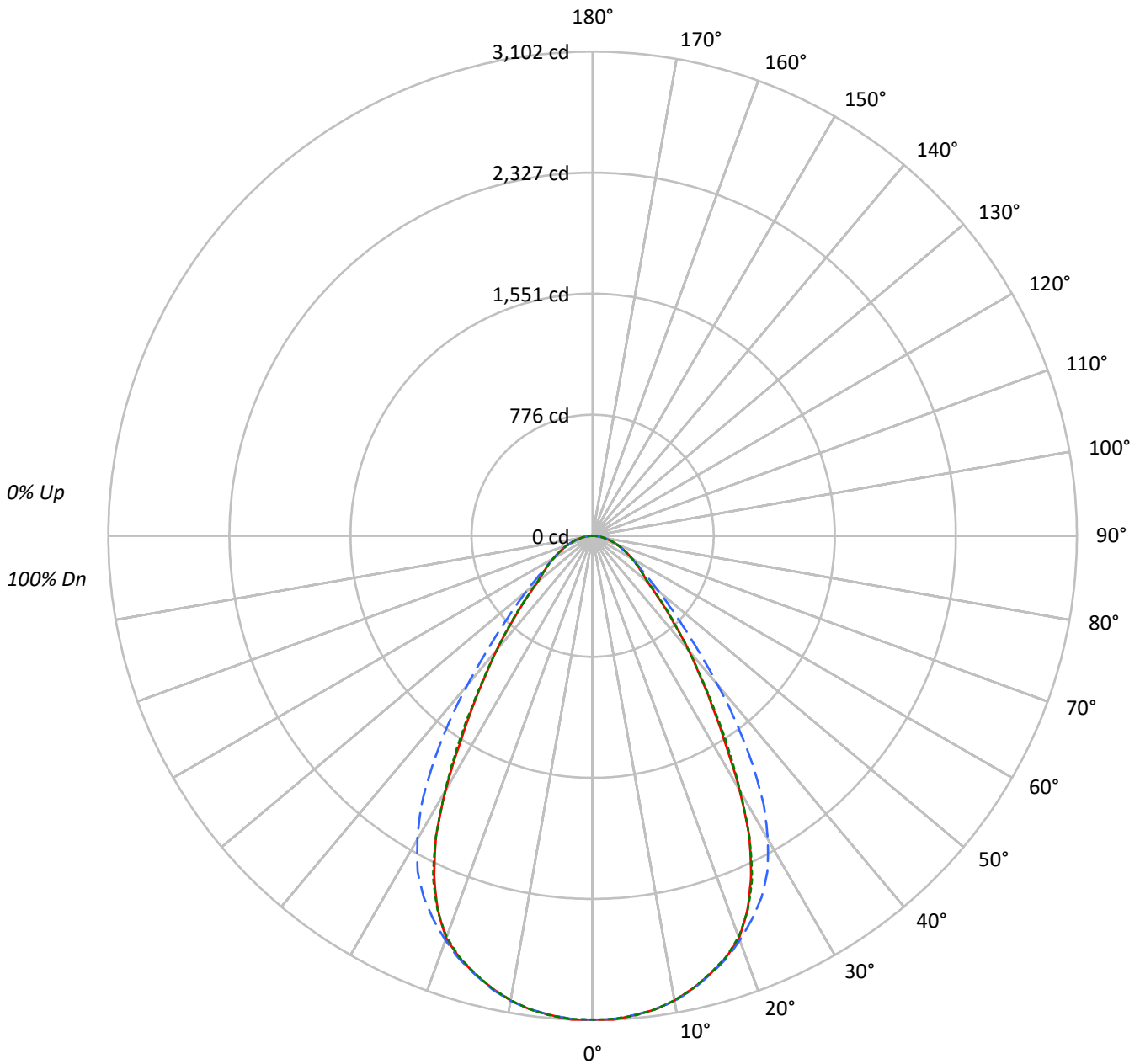
Lumens per Lamp: N/A
Luminaire Lumens: 4498.9 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 54
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					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	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°	300324	300324	300324
5°	299827	299827	300061
10°	297372	297608	297136
15°	291591	291832	291110
20°	282845	284330	281845
25°	256697	273436	258503
30°	210715	251130	211520
35°	158390	210804	160660
40°	120632	157179	120328
45°	90093	111547	91737
50°	68619	83132	70066
55°	61833	65093	61833
60°	56478	56013	56013
65°	51347	51347	51347
70°	47755	47075	47075
75°	44167	43269	44167
80°	40335	38996	40335
85°	34791	34791	34791

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 111547 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.4	6.5
10°-20°	818.5	18.2
20°-30°	1125.7	25.0
30°-40°	958.3	21.3
40°-50°	578.8	12.9
50°-60°	341.1	7.6
60°-70°	223.7	5.0
70°-80°	124.0	2.8
80°-90°	36.3	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°	2236.5	49.7
0°-40°	3194.8	71.0
0°-60°	4114.8	91.5
0°-90°	4498.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4498.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3100	3100	3100	3100	3100	
5°	3083	3086	3083	3081	3086	293
15°	2907	2915	2910	2907	2903	818
25°	2402	2476	2558	2481	2418	1085
35°	1339	1474	1782	1515	1358	848
45°	658	727	814	735	670	517
55°	366	373	385	373	366	329
65°	224	226	224	224	224	224
75°	118	118	116	116	118	125
85°	31	31	31	31	31	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	<i>3100.1</i>	3100.1	3100.1	3100.1	3100.1
2.5°	<i>3102.5</i>	<i>3095.3</i>	<i>3097.7</i>	<i>3095.3</i>	<i>3097.7</i>
5°	<i>3083.2</i>	3085.6	3083.2	3080.8	3085.6
7.5°	<i>3061.5</i>	3059.1	3059.1	3056.7	3061.5
10°	<i>3023.0</i>	3018.2	3025.4	3020.6	3020.6
12.5°	<i>2970.0</i>	2977.2	2974.8	2974.8	2970.0
15°	<i>2907.4</i>	2914.6	2909.8	2907.4	2902.6
17.5°	<i>2835.1</i>	2839.9	2842.3	2832.7	2832.7
20°	<i>2743.6</i>	2753.2	2758.0	2741.2	2733.9
22.5°	<i>2591.8</i>	2635.2	2661.7	2632.8	2596.6
25°	<i>2401.5</i>	2476.2	2558.1	2481.0	2418.4
27.5°	<i>2172.7</i>	2278.7	2425.6	2295.6	2172.7
30°	<i>1883.7</i>	2040.2	2245.0	2057.1	1890.9
32.5°	<i>1585.0</i>	1751.2	2037.8	1780.1	1618.7
35°	<i>1339.3</i>	1474.2	1782.5	1515.1	1358.5
37.5°	<i>1127.3</i>	1242.9	1515.1	1269.4	1139.3
40°	<i>953.9</i>	1045.4	1242.9	1057.4	951.5
42.5°	<i>787.7</i>	874.4	1006.9	886.4	797.3
45°	<i>657.6</i>	727.4	814.2	734.7	669.6
47.5°	<i>546.8</i>	604.6	667.2	604.6	554.0
50°	<i>455.3</i>	501.0	551.6	501.0	464.9
52.5°	<i>407.1</i>	421.5	455.3	423.9	407.1
55°	<i>366.1</i>	373.4	385.4	373.4	366.1
57.5°	<i>327.6</i>	332.4	330.0	330.0	327.6
60°	<i>291.5</i>	293.9	289.1	291.5	289.1
62.5°	<i>257.7</i>	257.7	252.9	257.7	255.3
65°	<i>224.0</i>	226.4	224.0	224.0	224.0
67.5°	<i>195.1</i>	195.1	192.7	195.1	195.1
70°	<i>168.6</i>	168.6	166.2	168.6	166.2
72.5°	<i>142.1</i>	142.1	139.7	139.7	139.7
75°	<i>118.0</i>	118.0	115.6	115.6	118.0
77.5°	<i>93.9</i>	93.9	91.5	93.9	93.9
80°	<i>72.3</i>	72.3	69.9	72.3	72.3
82.5°	<i>50.6</i>	50.6	50.6	53.0	53.0
85°	<i>31.3</i>	31.3	31.3	31.3	31.3
87.5°	<i>14.5</i>	14.5	14.5	14.5	16.9
90°	<i>0.0</i>	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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