

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: P837297

Luminaire Tested: HCSQ410D010-HM40525927-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837297
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: HCSQ410D010-HM40525927-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

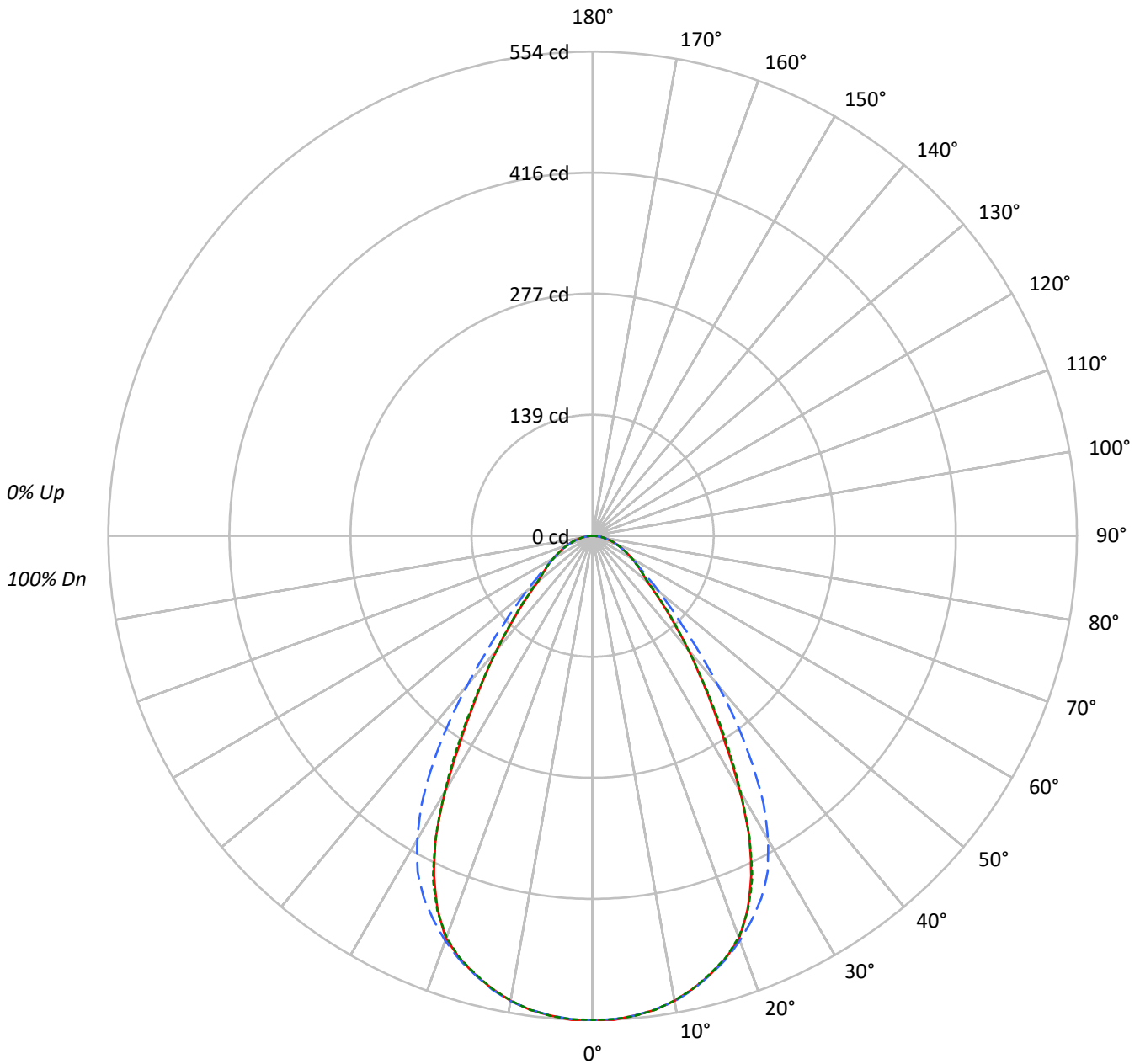
Lumens per Lamp: N/A
Luminaire Lumens: 804.0 lumens
Efficiency: N/A
Efficacy: 81.2 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.9
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°	53669	53669	53669
5°	53582	53582	53621
10°	53139	53189	53100
15°	52112	52152	52022
20°	50546	50814	50371
25°	45877	48860	46198
30°	37653	44879	37798
35°	28300	37667	28714
40°	21562	28087	21499
45°	16098	19934	16399
50°	12268	14860	12524
55°	11046	11637	11046
60°	10094	10017	10017
65°	9169	9169	9169
70°	8526	8412	8412
75°	7898	7748	7898
80°	7197	6974	7197
85°	6225	6225	6225

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 19934 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.3	6.5
10°-20°	146.3	18.2
20°-30°	201.2	25.0
30°-40°	171.3	21.3
40°-50°	103.4	12.9
50°-60°	61.0	7.6
60°-70°	40.0	5.0
70°-80°	22.2	2.8
80°-90°	6.5	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°	399.7	49.7
0°-40°	570.9	71.0
0°-60°	735.3	91.5
0°-90°	804.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	804.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	554	554	554	554	554	
5°	551	551	551	551	551	52
15°	520	521	520	520	519	146
25°	429	442	457	443	432	194
35°	239	263	318	271	243	152
45°	118	130	146	131	120	92
55°	65	67	69	67	65	59
65°	40	40	40	40	40	40
75°	21	21	21	21	21	22
85°	6	6	6	6	6	6
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	554.0	554.0	554.0	554.0	554.0
2.5°	554.4	553.1	553.6	553.1	553.6
5°	551.0	551.4	551.0	550.6	551.4
7.5°	547.1	546.7	546.7	546.2	547.1
10°	540.2	539.4	540.7	539.8	539.8
12.5°	530.8	532.0	531.6	531.6	530.8
15°	519.6	520.9	520.0	519.6	518.7
17.5°	506.6	507.5	507.9	506.2	506.2
20°	490.3	492.0	492.9	489.9	488.6
22.5°	463.2	470.9	475.7	470.5	464.0
25°	429.2	442.5	457.1	443.4	432.2
27.5°	388.3	407.2	433.5	410.2	388.3
30°	336.6	364.6	401.2	367.6	337.9
32.5°	283.2	312.9	364.2	318.1	289.3
35°	239.3	263.4	318.5	270.8	242.8
37.5°	201.5	222.1	270.8	226.9	203.6
40°	170.5	186.8	222.1	189.0	170.0
42.5°	140.8	156.3	179.9	158.4	142.5
45°	117.5	130.0	145.5	131.3	119.7
47.5°	97.7	108.0	119.2	108.0	99.0
50°	81.4	89.5	98.6	89.5	83.1
52.5°	72.7	75.3	81.4	75.8	72.7
55°	65.4	66.7	68.9	66.7	65.4
57.5°	58.5	59.4	59.0	59.0	58.5
60°	52.1	52.5	51.7	52.1	51.7
62.5°	46.1	46.1	45.2	46.1	45.6
65°	40.0	40.5	40.0	40.0	40.0
67.5°	34.9	34.9	34.4	34.9	34.9
70°	30.1	30.1	29.7	30.1	29.7
72.5°	25.4	25.4	25.0	25.0	25.0
75°	21.1	21.1	20.7	20.7	21.1
77.5°	16.8	16.8	16.4	16.8	16.8
80°	12.9	12.9	12.5	12.9	12.9
82.5°	9.0	9.0	9.0	9.5	9.5
85°	5.6	5.6	5.6	5.6	5.6
87.5°	2.6	2.6	2.6	2.6	3.0
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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