

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: P837292

Luminaire Tested: HCSQ410D010-HM40525840-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837292
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-HM40525840-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

Summary

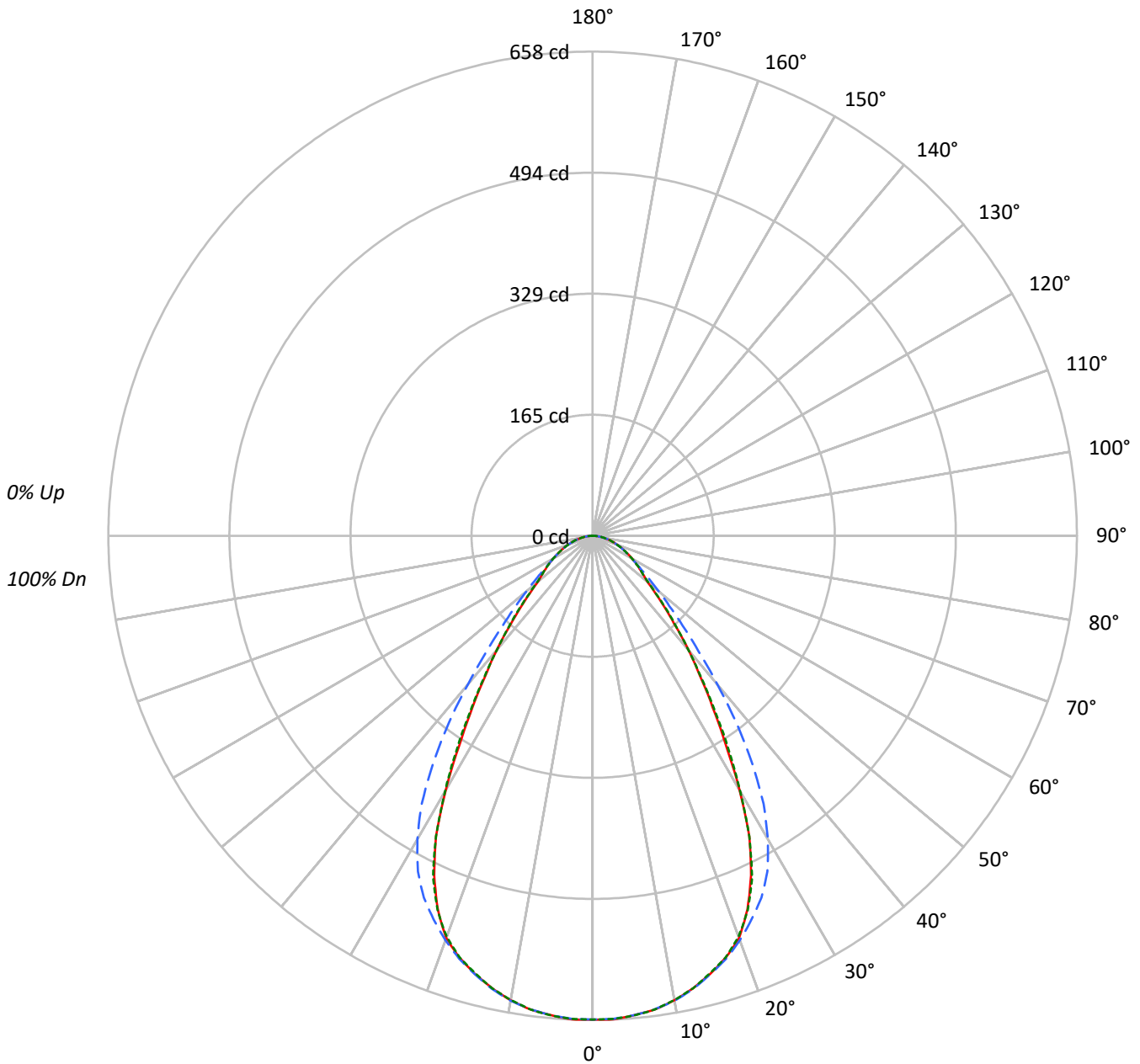
Lumens per Lamp: N/A
Luminaire Lumens: 954.1 lumens
Efficiency: N/A
Efficacy: 96.4 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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									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°	63696	63696	63696
5°	63589	63589	63637
10°	63065	63114	63016
15°	61841	61891	61740
20°	59990	60299	59773
25°	54439	57988	54824
30°	44689	53258	44857
35°	33587	44703	34072
40°	25583	33335	25520
45°	19112	23660	19454
50°	14559	17633	14860
55°	13123	13799	13123
60°	11974	11877	11877
65°	10888	10888	10888
70°	10140	9970	9970
75°	9357	9170	9357
80°	8536	8257	8536
85°	7336	7336	7336

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 23660 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.0	6.5
10°-20°	173.6	18.2
20°-30°	238.7	25.0
30°-40°	203.2	21.3
40°-50°	122.8	12.9
50°-60°	72.4	7.6
60°-70°	47.5	5.0
70°-80°	26.3	2.8
80°-90°	7.7	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°	474.3	49.7
0°-40°	677.6	71.0
0°-60°	872.7	91.5
0°-90°	954.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	954.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	658	658	658	658	658	
5°	654	654	654	653	654	62
15°	617	618	617	617	616	173
25°	509	525	542	526	513	230
35°	284	313	378	321	288	180
45°	140	154	173	156	142	110
55°	78	79	82	79	78	70
65°	48	48	48	48	48	48
75°	25	25	24	24	25	27
85°	7	7	7	7	7	8
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	657.5	657.5	657.5	657.5	657.5
2.5°	658.0	656.5	657.0	656.5	657.0
5°	653.9	654.4	653.9	653.4	654.4
7.5°	649.3	648.8	648.8	648.3	649.3
10°	641.1	640.1	641.6	640.6	640.6
12.5°	629.9	631.4	630.9	630.9	629.9
15°	616.6	618.1	617.1	616.6	615.6
17.5°	601.3	602.3	602.8	600.8	600.8
20°	581.9	583.9	584.9	581.4	579.8
22.5°	549.7	558.9	564.5	558.4	550.7
25°	509.3	525.2	542.5	526.2	512.9
27.5°	460.8	483.3	514.4	486.9	460.8
30°	399.5	432.7	476.1	436.3	401.0
32.5°	336.2	371.4	432.2	377.5	343.3
35°	284.0	312.7	378.0	321.3	288.1
37.5°	239.1	263.6	321.3	269.2	241.6
40°	202.3	221.7	263.6	224.3	201.8
42.5°	167.1	185.4	213.5	188.0	169.1
45°	139.5	154.3	172.7	155.8	142.0
47.5°	116.0	128.2	141.5	128.2	117.5
50°	96.6	106.3	117.0	106.3	98.6
52.5°	86.3	89.4	96.6	89.9	86.3
55°	77.7	79.2	81.7	79.2	77.7
57.5°	69.5	70.5	70.0	70.0	69.5
60°	61.8	62.3	61.3	61.8	61.3
62.5°	54.7	54.7	53.6	54.7	54.2
65°	47.5	48.0	47.5	47.5	47.5
67.5°	41.4	41.4	40.9	41.4	41.4
70°	35.8	35.8	35.2	35.8	35.2
72.5°	30.1	30.1	29.6	29.6	29.6
75°	25.0	25.0	24.5	24.5	25.0
77.5°	19.9	19.9	19.4	19.9	19.9
80°	15.3	15.3	14.8	15.3	15.3
82.5°	10.7	10.7	10.7	11.2	11.2
85°	6.6	6.6	6.6	6.6	6.6
87.5°	3.1	3.1	3.1	3.1	3.6
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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