

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: P837280

Luminaire Tested: HCSQ410D010-HM40525830-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837280
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ410D010-HM40525830-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

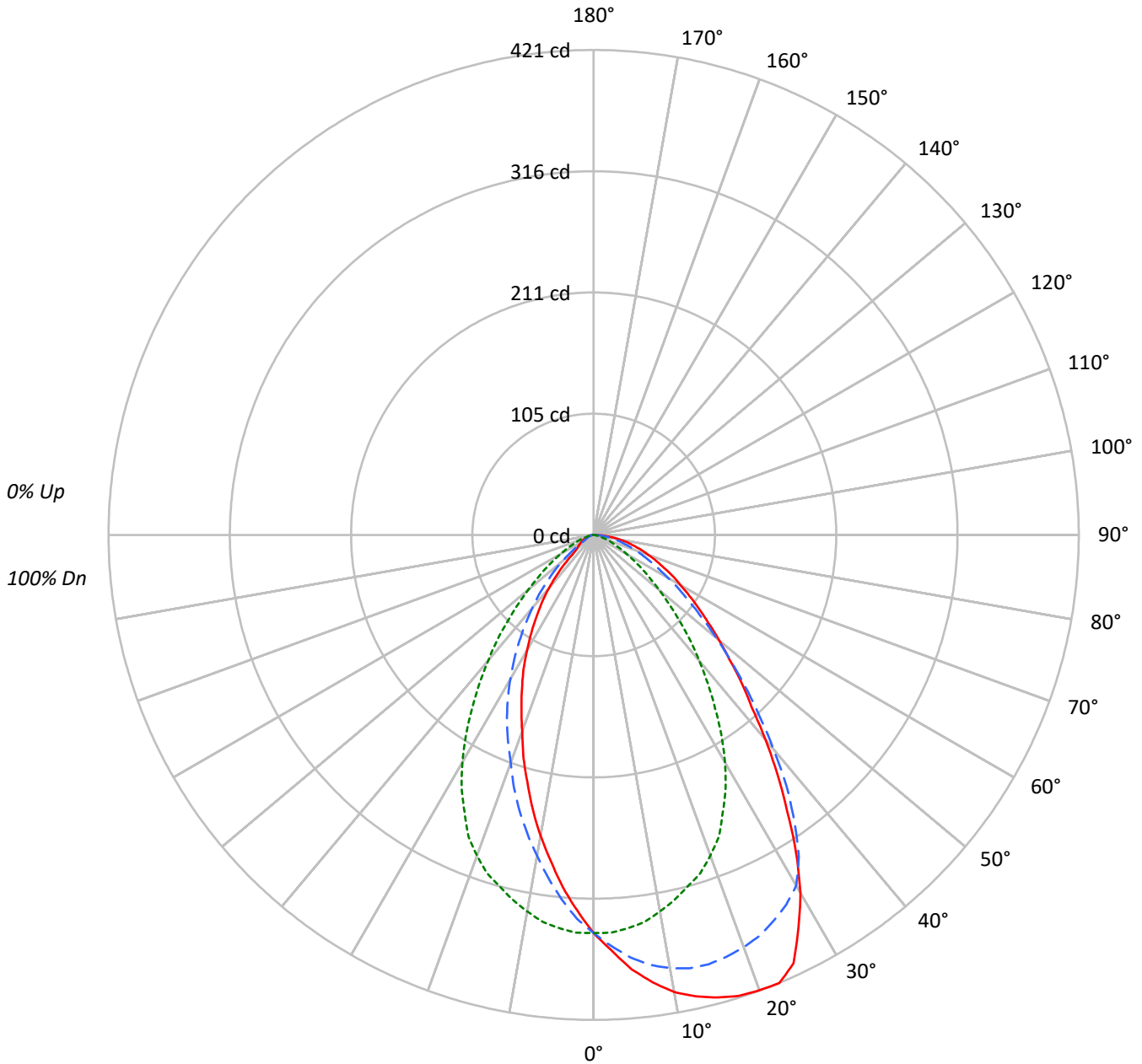
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 559.1 lumens
Efficiency: N/A
Efficacy: 56.5 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12
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					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89					89			
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78					78			
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69					69			
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62					62			
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55					55			
6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50					50			
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45					45			
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42					42			
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38					38			
10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35					35			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	33480	33480	33480	33480	33480
5°	36807	35806	33326	30895	29845
10°	39643	37567	32649	27829	26088
15°	41692	38693	31662	24883	22275
20°	43361	39268	30526	21680	18701
25°	43857	39507	28347	19026	15724
30°	40147	39320	25505	16175	12887
35°	34616	35893	21737	13281	10206
40°	29327	30692	17983	10471	7626
45°	24852	25455	14372	7795	4905
50°	21431	20904	11153	5245	2954
55°	18883	17228	8529	2905	2652
60°	16818	14434	6355	1608	2383
65°	15404	12355	4722	1467	2132
70°	14304	10678	3484	1388	2096
75°	13400	9357	2396	1273	1834
80°	12831	8201	1618	1395	1618
85°	12560	7114	1112	1112	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 25852 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.4	5.8
10°-20°	89.2	16.0
20°-30°	124.7	22.3
30°-40°	121.9	21.8
40°-50°	88.5	15.8
50°-60°	53.3	9.5
60°-70°	30.0	5.4
70°-80°	14.8	2.7
80°-90°	4.1	0.7
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°	246.4	44.1
0°-40°	368.3	65.9
0°-60°	510.1	91.3
0°-90°	559.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	559.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	346	346	346	346	346	
5°	378	368	343	318	307	37
15°	416	386	316	248	222	118
25°	410	370	265	178	147	185
35°	293	304	184	112	86	183
45°	181	186	105	57	36	141
55°	112	102	50	17	16	101
65°	67	54	21	6	9	67
75°	36	25	6	3	5	39
85°	11	6	1	1	1	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	345.6	345.6	345.6	345.6	345.6	345.6	345.6	345.6	345.6
2.5°	361.3	360.3	357.4	351.5	345.6	338.8	333.4	329.4	326.5
5°	378.5	376.5	368.2	355.9	342.7	329.4	317.7	310.8	306.9
7.5°	391.7	388.3	376.5	359.3	338.8	318.7	300.5	289.7	285.3
10°	403.0	397.1	381.9	358.9	331.9	305.4	282.9	270.1	265.2
12.5°	410.3	404.0	385.3	358.4	324.5	292.2	265.7	249.0	244.1
15°	415.7	407.9	385.8	354.4	315.7	278.5	248.1	228.4	222.1
17.5°	419.6	408.9	383.9	350.0	307.9	264.2	229.9	208.8	202.5
20°	420.6	408.9	380.9	343.7	296.1	250.0	210.3	189.2	181.4
22.5°	421.1	407.4	376.5	335.8	283.8	233.8	194.1	172.1	163.7
25°	410.3	402.5	369.6	322.6	265.2	216.2	178.0	153.9	147.1
27.5°	384.8	384.3	361.8	304.9	248.1	197.1	161.3	138.2	131.9
30°	358.9	359.3	351.5	285.3	228.0	178.9	144.6	122.1	115.2
32.5°	327.0	331.9	331.4	263.3	206.4	161.8	128.4	107.4	100.5
35°	292.7	301.5	303.5	238.3	183.8	142.2	112.3	93.1	86.3
37.5°	261.8	270.6	275.0	216.2	162.8	125.0	97.1	80.4	73.5
40°	231.9	239.2	242.7	190.7	142.2	107.4	82.8	67.2	60.3
42.5°	203.0	213.7	212.8	169.1	124.0	93.1	70.1	54.4	47.6
45°	181.4	188.7	185.8	146.6	104.9	78.4	56.9	42.2	35.8
47.5°	159.8	165.2	160.8	127.5	88.7	64.7	46.1	30.9	24.0
50°	142.2	144.6	138.7	108.3	74.0	52.9	34.8	20.6	19.6
52.5°	125.5	127.0	118.6	92.2	61.3	42.7	25.5	16.2	17.2
55°	111.8	111.3	102.0	77.9	50.5	32.8	17.2	14.7	15.7
57.5°	98.5	97.1	87.8	64.7	41.2	25.5	10.3	12.7	13.7
60°	86.8	85.3	74.5	53.4	32.8	19.1	8.3	11.3	12.3
62.5°	77.5	74.0	63.2	44.1	26.5	13.7	7.4	9.8	10.8
65°	67.2	64.2	53.9	35.8	20.6	9.8	6.4	8.3	9.3
67.5°	58.8	55.4	45.6	29.4	16.7	6.9	5.9	7.4	8.3
70°	50.5	47.6	37.7	23.5	12.3	4.4	4.9	6.4	7.4
72.5°	43.6	40.2	31.4	18.6	9.3	3.4	4.4	5.4	5.9
75°	35.8	32.8	25.0	14.2	6.4	2.9	3.4	4.4	4.9
77.5°	29.9	27.0	19.6	10.8	4.4	2.5	2.9	3.9	3.9
80°	23.0	20.6	14.7	7.4	2.9	1.5	2.5	2.9	2.9
82.5°	16.7	14.7	10.3	4.9	1.5	1.5	1.5	2.0	2.0
85°	11.3	9.8	6.4	2.9	1.0	1.0	1.0	1.0	1.0
87.5°	6.4	4.9	2.9	1.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	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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