

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: P837305

Luminaire Tested: HCSQ410D010-HM40525935-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837305
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-HM40525935-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

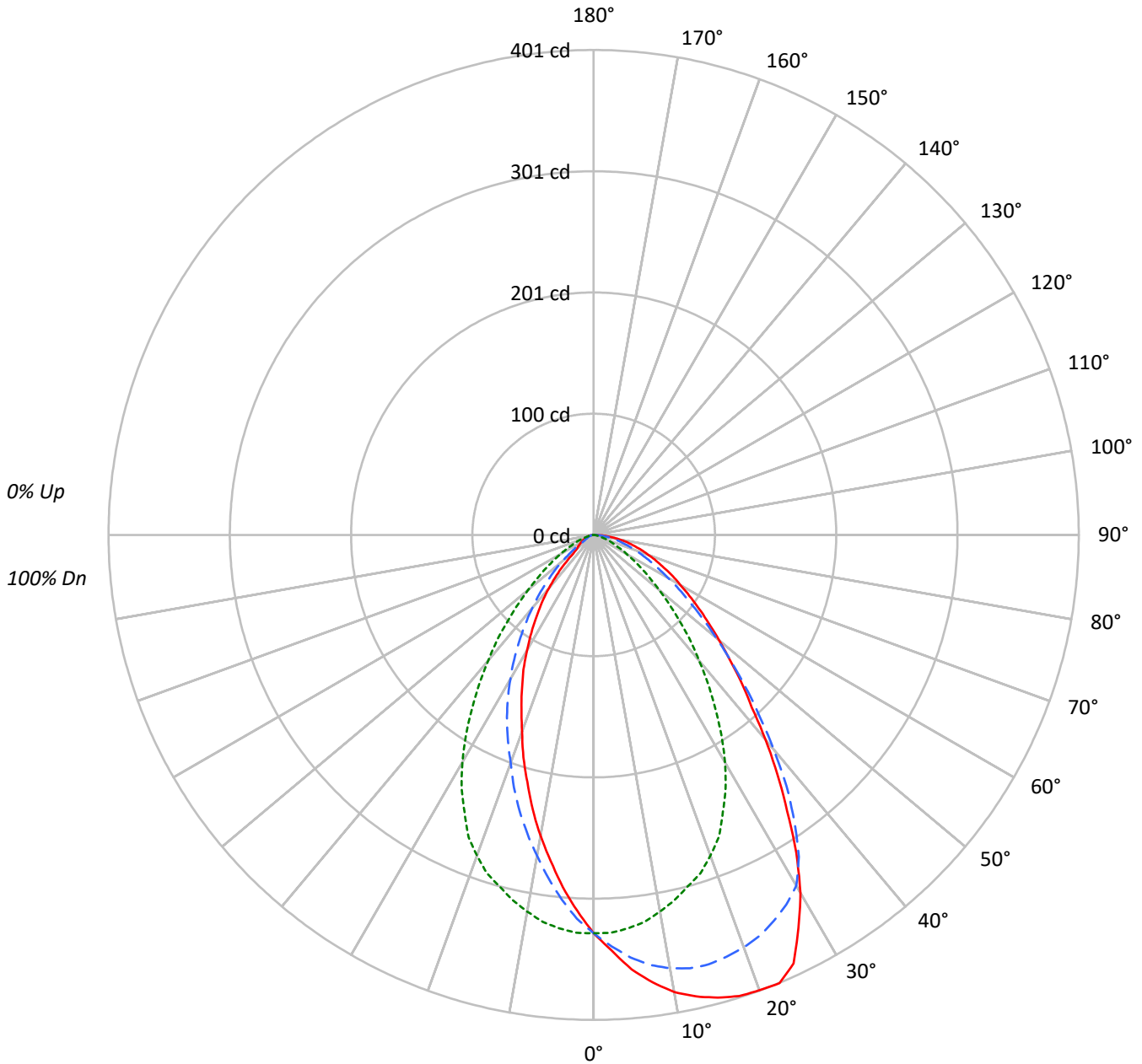
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 532.6 lumens
Efficiency: N/A
Efficacy: 53.8 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°	31901	31901	31901	31901	31901
5°	35067	34104	31751	29426	28435
10°	37764	35787	31105	26511	24858
15°	39726	36868	30168	23699	21222
20°	41309	37412	29082	20660	17814
25°	41783	37647	27011	18118	14975
30°	38246	37463	24296	15415	12282
35°	32972	34190	20708	12654	9721
40°	27935	29238	17123	9978	7259
45°	23674	24249	13687	7426	4672
50°	20406	19924	10625	5004	2818
55°	17988	16400	8124	2753	2517
60°	16023	13756	6064	1531	2267
65°	14671	11782	4493	1398	2040
70°	13624	10197	3314	1331	1983
75°	12764	8908	2283	1235	1759
80°	12273	7810	1562	1283	1562
85°	11893	6780	1000	1000	1000

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 24633 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.9	5.8
10°-20°	85.0	16.0
20°-30°	118.8	22.3
30°-40°	116.2	21.8
40°-50°	84.3	15.8
50°-60°	50.8	9.5
60°-70°	28.6	5.4
70°-80°	14.1	2.7
80°-90°	3.9	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°	234.7	44.1
0°-40°	350.9	65.9
0°-60°	486.0	91.3
0°-90°	532.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	532.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	329	329	329	329	329	
5°	361	351	326	303	292	35
15°	396	368	301	236	212	112
25°	391	352	253	170	140	176
35°	279	289	175	107	82	175
45°	173	177	100	54	34	134
55°	106	97	48	16	15	96
65°	64	51	20	6	9	64
75°	34	24	6	3	5	37
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°	329.3	329.3	329.3	329.3	329.3	329.3	329.3	329.3	329.3
2.5°	344.2	343.3	340.5	334.9	329.3	322.7	317.6	313.9	311.1
5°	360.6	358.7	350.7	339.1	326.5	313.9	302.6	296.1	292.4
7.5°	373.2	369.9	358.7	342.3	322.7	303.6	286.3	276.0	271.8
10°	383.9	378.3	363.8	341.9	316.2	291.0	269.5	257.3	252.7
12.5°	390.9	384.8	367.1	341.4	309.2	278.4	253.1	237.3	232.6
15°	396.1	388.6	367.6	337.7	300.8	265.3	236.3	217.6	211.6
17.5°	399.8	389.5	365.7	333.5	293.3	251.7	219.0	199.0	192.9
20°	400.7	389.5	362.9	327.4	282.1	238.2	200.4	180.3	172.8
22.5°	401.2	388.1	358.7	319.9	270.4	222.8	184.9	163.9	156.0
25°	390.9	383.4	352.2	307.3	252.7	206.0	169.5	146.7	140.1
27.5°	366.6	366.2	344.7	290.5	236.3	187.8	153.7	131.7	125.6
30°	341.9	342.3	334.9	271.8	217.2	170.5	137.8	116.3	109.8
32.5°	311.5	316.2	315.7	250.8	196.6	154.1	122.4	102.3	95.7
35°	278.8	287.2	289.1	227.0	175.1	135.4	107.0	88.7	82.2
37.5°	249.4	257.8	262.0	206.0	155.1	119.1	92.5	76.6	70.1
40°	220.9	227.9	231.2	181.7	135.4	102.3	78.9	64.0	57.4
42.5°	193.4	203.6	202.7	161.1	118.2	88.7	66.8	51.8	45.3
45°	172.8	179.8	177.0	139.6	99.9	74.7	54.2	40.2	34.1
47.5°	152.3	157.4	153.2	121.4	84.5	61.6	43.9	29.4	22.9
50°	135.4	137.8	132.2	103.2	70.5	50.4	33.2	19.6	18.7
52.5°	119.6	121.0	113.0	87.8	58.4	40.6	24.3	15.4	16.3
55°	106.5	106.0	97.1	74.3	48.1	31.3	16.3	14.0	14.9
57.5°	93.9	92.5	83.6	61.6	39.2	24.3	9.8	12.1	13.1
60°	82.7	81.3	71.0	50.9	31.3	18.2	7.9	10.7	11.7
62.5°	73.8	70.5	60.2	42.0	25.2	13.1	7.0	9.3	10.3
65°	64.0	61.2	51.4	34.1	19.6	9.3	6.1	7.9	8.9
67.5°	56.0	52.8	43.4	28.0	15.9	6.5	5.6	7.0	7.9
70°	48.1	45.3	36.0	22.4	11.7	4.2	4.7	6.1	7.0
72.5°	41.6	38.3	29.9	17.7	8.9	3.3	4.2	5.1	5.6
75°	34.1	31.3	23.8	13.5	6.1	2.8	3.3	4.2	4.7
77.5°	28.5	25.7	18.7	10.3	4.2	2.3	2.8	3.7	3.7
80°	22.0	19.6	14.0	7.0	2.8	1.4	2.3	2.8	2.8
82.5°	15.9	14.0	9.8	4.7	1.4	1.4	1.4	1.9	1.9
85°	10.7	9.3	6.1	2.8	0.9	0.9	0.9	0.9	0.9
87.5°	6.1	4.7	2.8	0.9	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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