

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: P837310

Luminaire Tested: HCSQ410D010-HM40525940-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837310
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-HM40525940-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

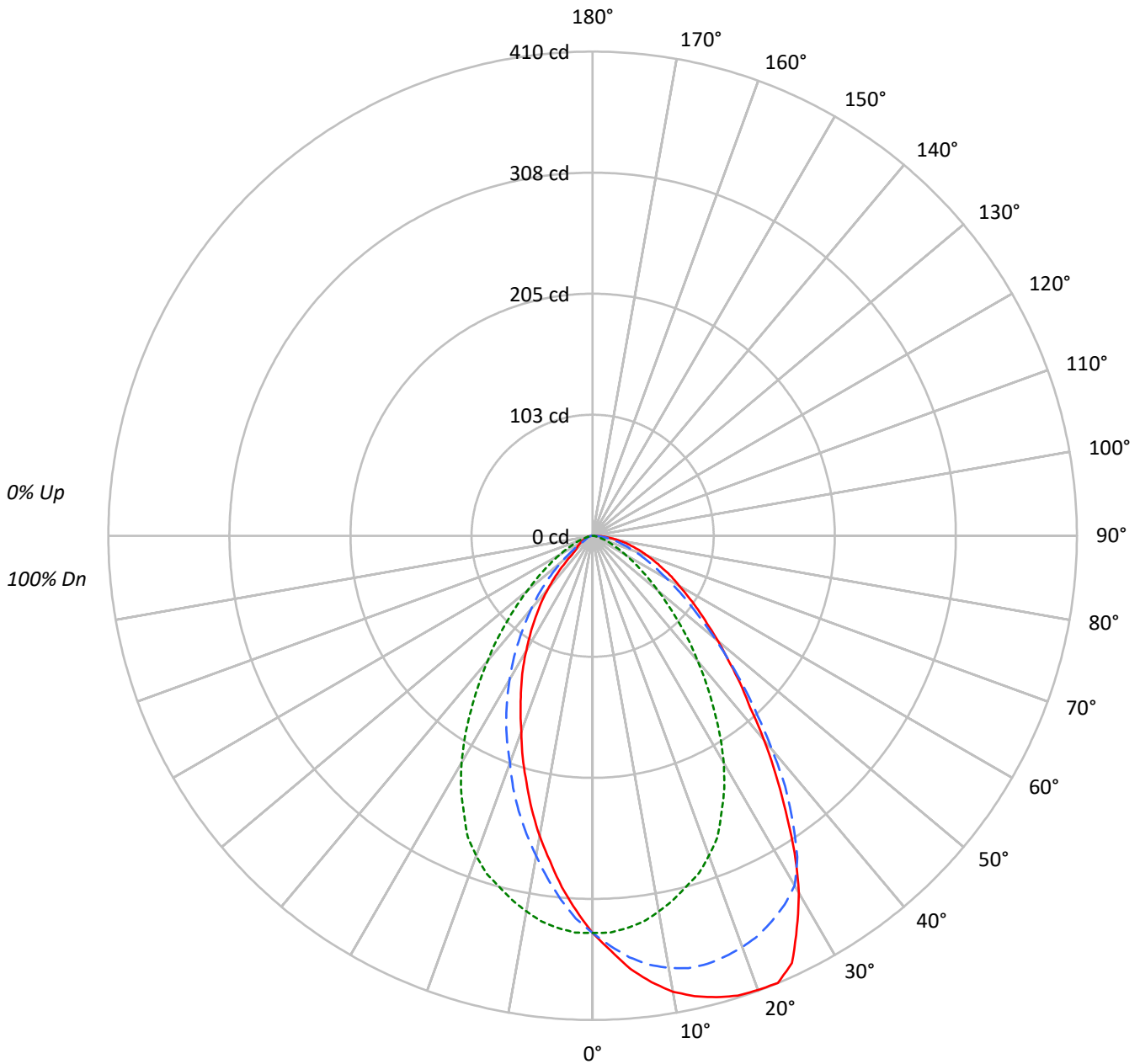
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 544.0 lumens
Efficiency: N/A
Efficacy: 54.9 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									
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	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78																			
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69																			
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62																			
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55																			
6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50																			
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45																			
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42																			
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38																			
10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	32579	32579	32579	32579	32579
5°	35816	34843	32431	30059	29037
10°	38571	36554	31773	27081	25389
15°	40568	37650	30810	24211	21673
20°	42196	38216	29701	21093	18196
25°	42681	38448	27588	18513	15296
30°	39062	38257	24811	15739	12540
35°	33681	34923	21157	12914	9934
40°	28530	29858	17490	10193	7423
45°	24181	24770	13988	7576	4768
50°	20843	20346	10851	5109	2879
55°	18376	16755	8293	2821	2584
60°	16353	14047	6200	1569	2306
65°	14991	12034	4585	1421	2086
70°	13907	10395	3371	1360	2039
75°	13026	9095	2321	1235	1797
80°	12497	7978	1618	1339	1618
85°	12227	6891	1112	1112	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 25167 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.5	5.8
10°-20°	86.8	16.0
20°-30°	121.4	22.3
30°-40°	118.7	21.8
40°-50°	86.1	15.8
50°-60°	51.9	9.5
60°-70°	29.2	5.4
70°-80°	14.4	2.7
80°-90°	4.0	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°	239.7	44.1
0°-40°	358.4	65.9
0°-60°	496.4	91.3
0°-90°	544.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	544.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	336	336	336	336	336	
5°	368	358	334	309	299	36
15°	404	375	307	241	216	115
25°	399	360	258	173	143	180
35°	285	295	179	109	84	178
45°	176	181	102	55	35	137
55°	109	99	49	17	15	98
65°	65	52	20	6	9	65
75°	35	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°	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3
2.5°	351.6	350.6	347.8	342.0	336.3	329.6	324.4	320.6	317.7
5°	368.3	366.4	358.3	346.3	333.5	320.6	309.1	302.4	298.6
7.5°	381.2	377.8	366.4	349.7	329.6	310.1	292.4	281.9	277.6
10°	392.1	386.4	371.6	349.2	323.0	297.2	275.3	262.8	258.1
12.5°	399.3	393.1	375.0	348.7	315.8	284.3	258.6	242.3	237.6
15°	404.5	396.9	375.4	344.9	307.2	271.0	241.4	222.3	216.1
17.5°	408.3	397.9	373.5	340.6	299.6	257.1	223.7	203.2	197.0
20°	409.3	397.9	370.7	334.4	288.1	243.3	204.6	184.1	176.5
22.5°	409.8	396.4	366.4	326.8	276.2	227.5	188.9	167.4	159.3
25°	399.3	391.6	359.7	313.9	258.1	210.4	173.2	149.8	143.1
27.5°	374.5	374.0	352.1	296.7	241.4	191.8	156.9	134.5	128.3
30°	349.2	349.7	342.0	277.6	221.8	174.1	140.7	118.8	112.1
32.5°	318.2	323.0	322.5	256.2	200.8	157.4	125.0	104.5	97.8
35°	284.8	293.4	295.3	231.8	178.9	138.3	109.2	90.6	84.0
37.5°	254.7	263.3	267.6	210.4	158.4	121.6	94.5	78.2	71.6
40°	225.6	232.8	236.1	185.6	138.3	104.5	80.6	65.4	58.7
42.5°	197.5	208.0	207.0	164.6	120.7	90.6	68.2	53.0	46.3
45°	176.5	183.7	180.8	142.6	102.1	76.3	55.3	41.0	34.8
47.5°	155.5	160.8	156.5	124.0	86.3	63.0	44.8	30.1	23.4
50°	138.3	140.7	135.0	105.4	72.0	51.5	33.9	20.0	19.1
52.5°	122.1	123.6	115.4	89.7	59.6	41.5	24.8	15.7	16.7
55°	108.8	108.3	99.2	75.8	49.1	32.0	16.7	14.3	15.3
57.5°	95.9	94.5	85.4	63.0	40.1	24.8	10.0	12.4	13.4
60°	84.4	83.0	72.5	52.0	32.0	18.6	8.1	11.0	11.9
62.5°	75.4	72.0	61.5	42.9	25.8	13.4	7.2	9.5	10.5
65°	65.4	62.5	52.5	34.8	20.0	9.5	6.2	8.1	9.1
67.5°	57.2	53.9	44.4	28.6	16.2	6.7	5.7	7.2	8.1
70°	49.1	46.3	36.7	22.9	11.9	4.3	4.8	6.2	7.2
72.5°	42.5	39.1	30.5	18.1	9.1	3.3	4.3	5.2	5.7
75°	34.8	32.0	24.3	13.8	6.2	2.9	3.3	4.3	4.8
77.5°	29.1	26.2	19.1	10.5	4.3	2.4	2.9	3.8	3.8
80°	22.4	20.0	14.3	7.2	2.9	1.4	2.4	2.9	2.9
82.5°	16.2	14.3	10.0	4.8	1.4	1.4	1.4	1.9	1.9
85°	11.0	9.5	6.2	2.9	1.0	1.0	1.0	1.0	1.0
87.5°	6.2	4.8	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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