

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: P837273

Luminaire Tested: HCSQ410D010-HM40525827-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837273
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ410D010-HM40525827-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

Summary

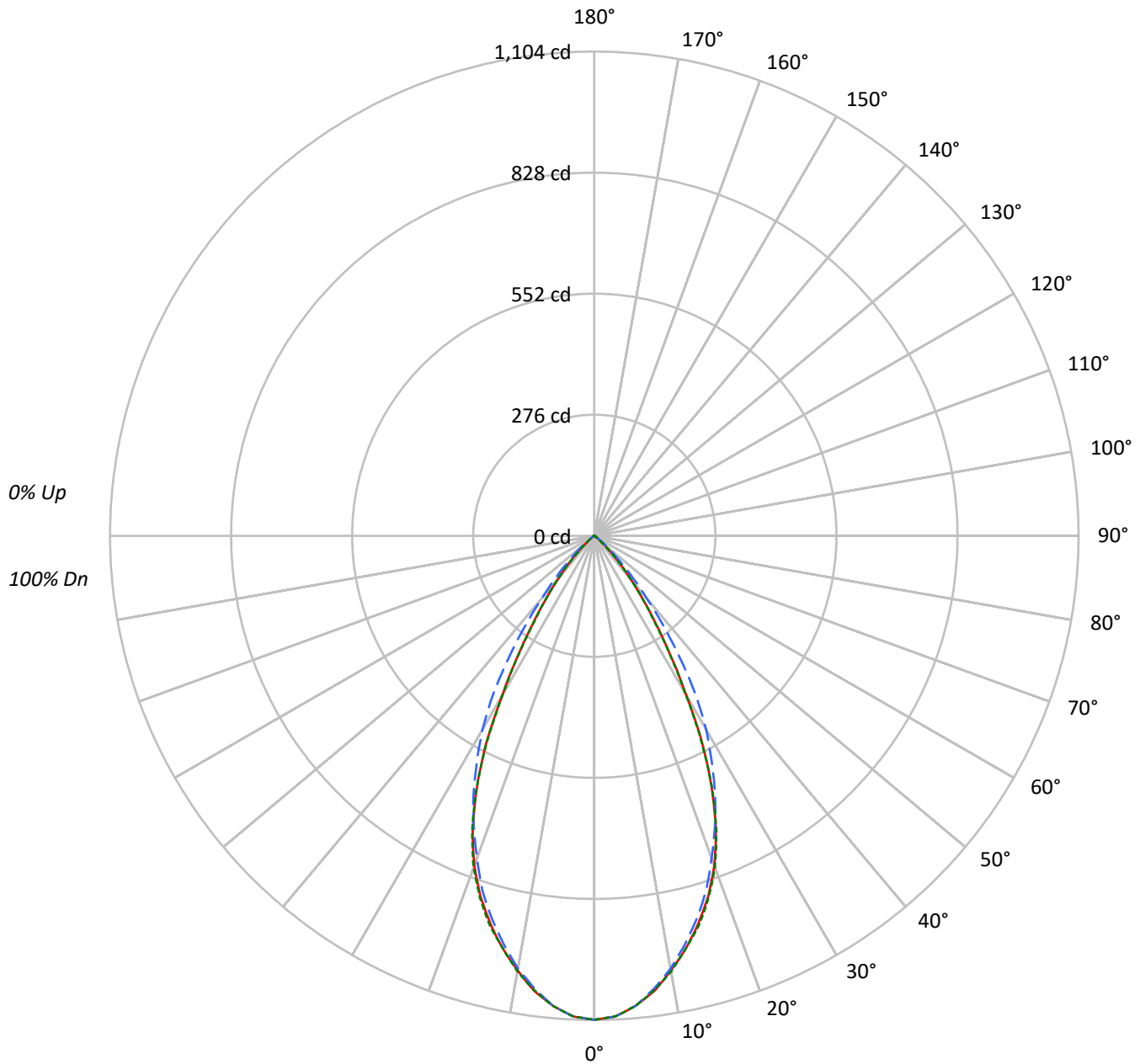
Lumens per Lamp: N/A
Luminaire Lumens: 891.9 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): 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					0
RW	70	50	30	10	70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	114	111	108	106	111	109	106	104		105	103	101		101	99	98		97	96	95
2	108	103	99	96	106	101	98	95		98	95	93		95	93	91		93	91	89
3	103	96	91	87	101	95	90	87		92	89	85		90	87	84		88	85	83
4	98	90	85	80	96	89	84	80		87	82	79		85	81	78		83	80	77
5	93	84	79	74	91	83	78	74		82	77	73		80	76	73		78	75	72
6	88	79	73	69	87	79	73	69		77	72	68		76	71	68		74	70	68
7	84	75	69	65	82	74	68	64		73	68	64		72	67	64		70	66	63
8	80	70	64	60	79	70	64	60		69	64	60		68	63	60		67	63	60
9	76	67	61	57	75	66	60	57		65	60	56		64	60	56		63	59	56
10	73	63	57	53	72	63	57	53		62	57	53		61	56	53		60	56	53

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	106921	106921	106921
5°	104636	104675	104675
10°	98970	98527	99236
15°	91828	90574	92320
20°	82433	80588	82938
25°	67704	69671	67939
30°	46803	56927	46445
35°	28821	40209	28135
40°	16263	23509	16149
45°	7426	11782	7124
50°	1884	4732	1959
55°	912	1436	828
60°	601	523	698
65°	504	413	504
70°	368	368	510
75°	337	337	487
80°	502	502	502
85°	445	1000	1000

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 11782 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.4	11.3
10°-20°	253.6	28.4
20°-30°	289.9	32.5
30°-40°	179.9	20.2
40°-50°	56.7	6.4
50°-60°	7.3	0.8
60°-70°	2.2	0.2
70°-80°	1.1	0.1
80°-90°	0.8	0.1
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°	643.9	72.2
0°-40°	823.8	92.4
0°-60°	887.8	99.5
0°-90°	891.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	891.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1104	1104	1104	1104	1104	
5°	1076	1075	1076	1076	1076	101
15°	916	909	903	909	920	255
25°	633	642	652	642	636	284
35°	244	281	340	275	238	157
45°	54	65	86	65	52	46
55°	5	5	8	5	5	5
65°	2	2	2	2	2	2
75°	1	1	1	1	1	1
85°	0	1	1	1	1	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1103.7	1103.7	1103.7	1103.7	1103.7
2.5°	1097.0	1097.9	1097.0	1098.8	1097.0
5°	1076.0	1075.1	1076.4	1075.5	1076.4
7.5°	1047.3	1041.9	1041.5	1045.1	1045.5
10°	1006.1	1004.7	1001.6	1004.7	1008.8
12.5°	964.0	958.6	954.1	960.4	964.0
15°	915.6	908.9	903.1	908.9	920.5
17.5°	862.3	852.9	848.0	854.7	865.9
20°	799.6	789.7	781.7	787.5	804.5
22.5°	724.3	723.4	718.1	721.2	727.5
25°	633.4	642.4	651.8	642.4	635.6
27.5°	533.5	557.7	579.2	551.0	529.5
30°	418.4	455.1	508.9	452.4	415.2
32.5°	323.4	361.9	430.5	357.0	320.7
35°	243.7	281.3	340.0	274.6	237.9
37.5°	179.2	207.4	258.5	205.6	179.2
40°	128.6	146.9	185.9	146.5	127.7
42.5°	89.1	101.2	129.9	100.3	86.5
45°	54.2	65.0	86.0	65.4	52.0
47.5°	28.7	41.2	54.2	39.4	28.7
50°	12.5	21.9	31.4	21.5	13.0
52.5°	6.7	9.4	17.0	9.4	6.7
55°	5.4	5.4	8.5	5.4	4.9
57.5°	4.0	4.0	4.5	4.0	4.0
60°	3.1	3.1	2.7	3.1	3.6
62.5°	2.7	2.7	2.2	2.7	2.7
65°	2.2	2.2	1.8	2.2	2.2
67.5°	1.8	1.8	1.8	1.8	1.8
70°	1.3	1.3	1.3	1.8	1.8
72.5°	1.3	1.3	1.3	1.3	1.3
75°	0.9	0.9	0.9	0.9	1.3
77.5°	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9
82.5°	0.4	0.9	0.9	0.9	0.9
85°	0.4	0.9	0.9	0.9	0.9
87.5°	0.4	0.4	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0



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Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°







(END OF REPORT)