

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: P837367

Luminaire Tested: HCSQ420D010-HM40525835-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837367
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: HCSQ420D010-HM40525835-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

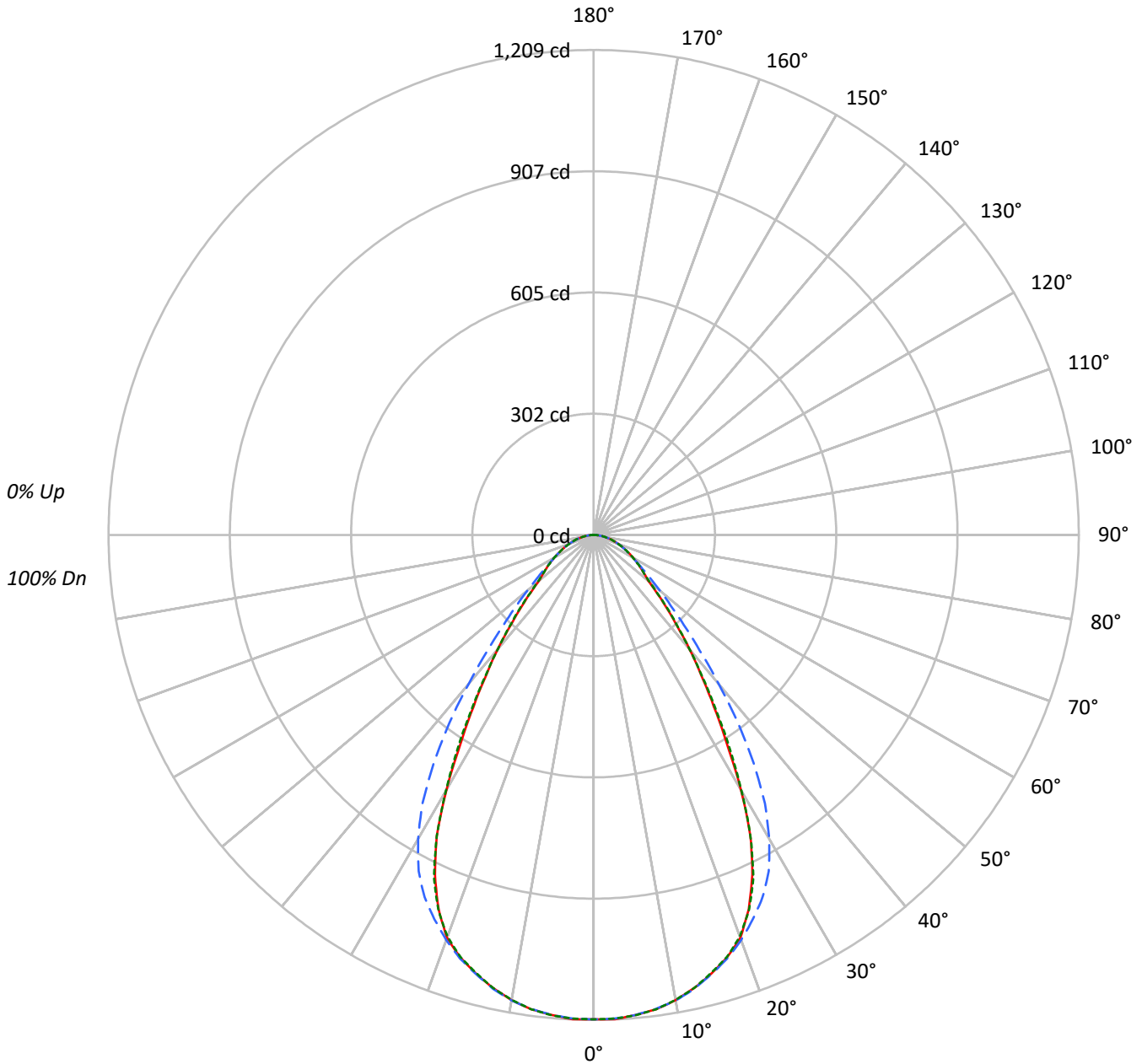
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1752.6 lumens
Efficiency: N/A
Efficacy: 87.6 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): 20
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°	116996	116996	116996
5°	116802	116802	116889
10°	115840	115939	115752
15°	113592	113682	113401
20°	110185	110763	109794
25°	99996	106516	100701
30°	82084	97835	82398
35°	61698	82122	62585
40°	46993	61233	46879
45°	35100	43457	35744
50°	26736	32388	27294
55°	24085	25351	24085
60°	21991	21816	21816
65°	20011	20011	20011
70°	18609	18326	18326
75°	17218	16843	17218
80°	15732	15174	15732
85°	13561	13561	13561

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 43457 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.9	6.5
10°-20°	318.8	18.2
20°-30°	438.5	25.0
30°-40°	373.3	21.3
40°-50°	225.5	12.9
50°-60°	132.9	7.6
60°-70°	87.2	5.0
70°-80°	48.3	2.8
80°-90°	14.1	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°	871.3	49.7
0°-40°	1244.6	71.0
0°-60°	1603.0	91.5
0°-90°	1752.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1752.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1208	1208	1208	1208	1208	
5°	1201	1202	1201	1200	1202	114
15°	1133	1135	1134	1133	1131	319
25°	936	965	996	966	942	423
35°	522	574	694	590	529	330
45°	256	283	317	286	261	201
55°	143	145	150	145	143	128
65°	87	88	87	87	87	87
75°	46	46	45	45	46	49
85°	12	12	12	12	12	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1207.7	1207.7	1207.7	1207.7	1207.7
2.5°	1208.6	1205.8	1206.7	1205.8	1206.7
5°	1201.1	1202.0	1201.1	1200.2	1202.0
7.5°	1192.7	1191.7	1191.7	1190.8	1192.7
10°	1177.6	1175.8	1178.6	1176.7	1176.7
12.5°	1157.0	1159.8	1158.9	1158.9	1157.0
15°	1132.6	1135.4	1133.5	1132.6	1130.7
17.5°	1104.5	1106.3	1107.3	1103.5	1103.5
20°	1068.8	1072.5	1074.4	1067.9	1065.0
22.5°	1009.7	1026.6	1036.9	1025.6	1011.6
25°	935.5	964.6	996.5	966.5	942.1
27.5°	846.4	887.7	944.9	894.3	846.4
30°	733.8	794.8	874.6	801.4	736.6
32.5°	617.4	682.2	793.9	693.4	630.6
35°	521.7	574.3	694.4	590.2	529.2
37.5°	439.2	484.2	590.2	494.5	443.8
40°	371.6	407.2	484.2	411.9	370.7
42.5°	306.8	340.6	392.2	345.3	310.6
45°	256.2	283.4	317.2	286.2	260.9
47.5°	213.0	235.5	259.9	235.5	215.8
50°	177.4	195.2	214.9	195.2	181.1
52.5°	158.6	164.2	177.4	165.2	158.6
55°	142.6	145.4	150.1	145.4	142.6
57.5°	127.6	129.5	128.6	128.6	127.6
60°	113.5	114.5	112.6	113.5	112.6
62.5°	100.4	100.4	98.5	100.4	99.5
65°	87.3	88.2	87.3	87.3	87.3
67.5°	76.0	76.0	75.1	76.0	76.0
70°	65.7	65.7	64.7	65.7	64.7
72.5°	55.4	55.4	54.4	54.4	54.4
75°	46.0	46.0	45.0	45.0	46.0
77.5°	36.6	36.6	35.7	36.6	36.6
80°	28.2	28.2	27.2	28.2	28.2
82.5°	19.7	19.7	19.7	20.6	20.6
85°	12.2	12.2	12.2	12.2	12.2
87.5°	5.6	5.6	5.6	5.6	6.6
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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