

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: P837659

Luminaire Tested: HCSQ455D010-HM44560930-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837659
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ455D010-HM44560930-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

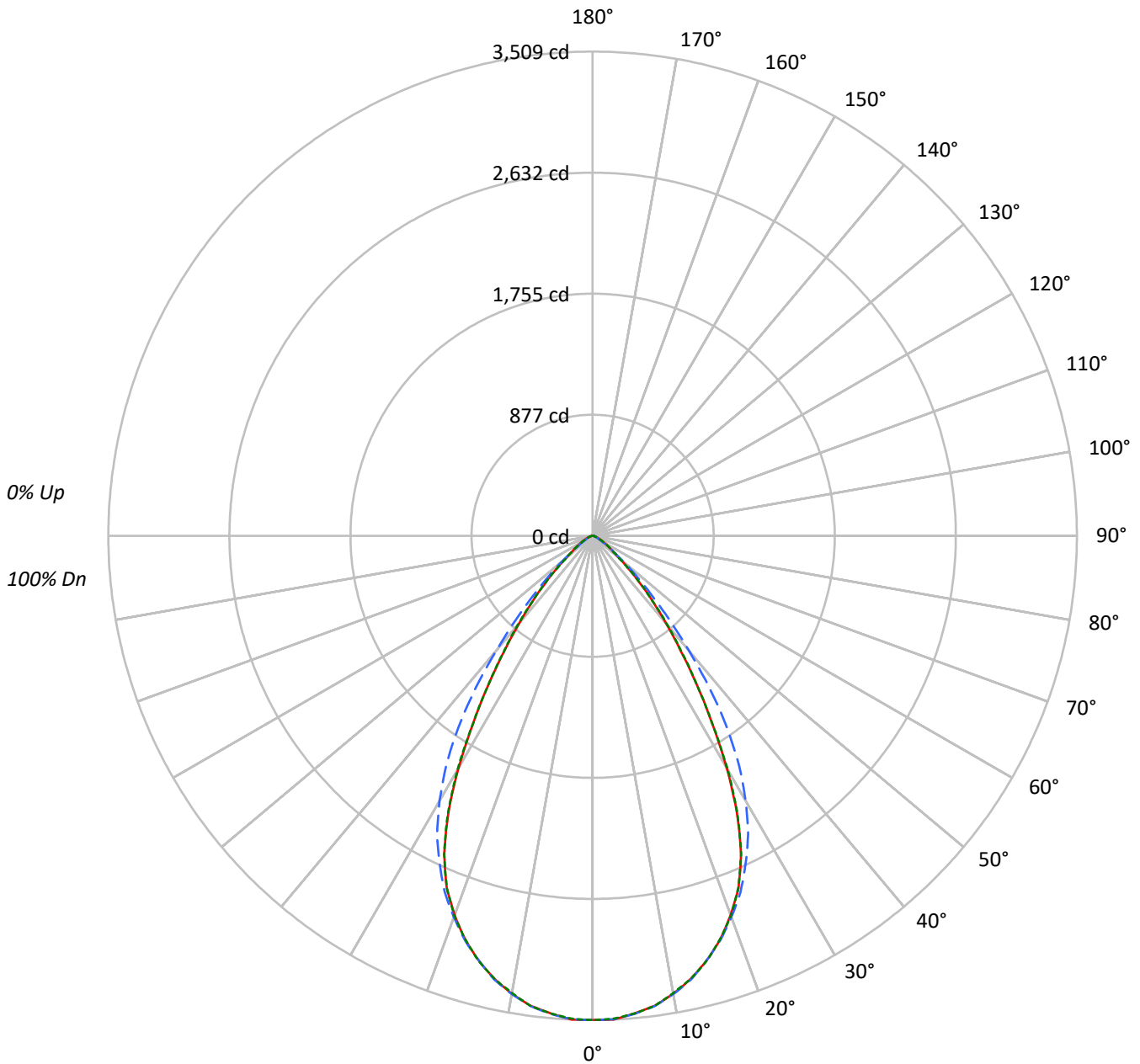
Lumens per Lamp: N/A
Luminaire Lumens: 3944.9 lumens
Efficiency: N/A
Efficacy: 73.1 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 54
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				100															
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92				92															
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85				85															
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77															
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71				71															
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65				65															
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60				60															
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56				56															
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52				52															
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48				48															
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45				45															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	339975	339975	339975
5°	337909	338327	337909
10°	331575	331792	330936
15°	319794	319583	320014
20°	301464	303031	302134
25°	272014	280362	272014
30°	217259	248054	218959
35°	155090	200728	155350
40°	104710	136516	106367
45°	66528	80777	66816
50°	37889	43119	36593
55°	24895	20876	24524
60°	17224	12187	16798
65°	11920	8940	11920
70°	8582	6741	8582
75°	5689	5689	5689
80°	3626	4854	4854
85°	4780	4780	4780

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 80777 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	328.8	8.3
10°-20°	894.0	22.7
20°-30°	1170.5	29.7
30°-40°	920.0	23.3
40°-50°	429.7	10.9
50°-60°	133.2	3.4
60°-70°	47.5	1.2
70°-80°	16.7	0.4
80°-90°	4.6	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°	2393.3	60.7
0°-40°	3313.2	84.0
0°-60°	3876.1	98.3
0°-90°	3944.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3944.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3509	3509	3509	3509	3509	
5°	3475	3477	3479	3483	3475	329
15°	3189	3189	3186	3189	3191	893
25°	2545	2580	2623	2582	2545	1144
35°	1311	1431	1697	1448	1314	827
45°	486	544	590	533	488	387
55°	147	139	124	137	145	138
65°	52	48	39	46	52	54
75°	15	15	15	15	15	17
85°	4	4	4	4	4	4
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3509.4	3509.4	3509.4	3509.4	3509.4
2.5°	3509.4	3505.1	3507.3	3502.9	3502.9
5°	3474.8	3476.9	3479.1	3483.4	3474.8
7.5°	3435.7	3440.1	3437.9	3437.9	3437.9
10°	3370.7	3372.9	3372.9	3372.9	3364.2
12.5°	3288.3	3292.7	3294.8	3288.3	3288.3
15°	3188.6	3188.6	3186.5	3188.6	3190.8
17.5°	3069.4	3075.9	3075.9	3069.4	3067.2
20°	2924.2	2935.0	2939.4	2930.7	2930.7
22.5°	2761.6	2772.4	2798.5	2776.8	2759.4
25°	2544.8	2579.5	2622.9	2581.7	2544.8
27.5°	2265.2	2341.1	2440.8	2354.1	2271.7
30°	1942.2	2065.8	2217.5	2072.3	1957.4
32.5°	1612.7	1751.5	1974.7	1762.3	1612.7
35°	1311.4	1430.7	1697.3	1448.0	1313.6
37.5°	1042.6	1157.5	1391.6	1170.5	1057.8
40°	828.0	921.3	1079.5	919.1	841.1
42.5°	646.0	713.2	817.2	711.0	643.8
45°	485.6	544.1	589.6	533.2	487.7
47.5°	357.7	396.7	422.7	390.2	349.0
50°	251.4	279.6	286.1	273.1	242.8
52.5°	188.6	188.6	190.8	186.4	184.3
55°	147.4	138.7	123.6	136.6	145.2
57.5°	114.9	106.2	86.7	101.9	112.7
60°	88.9	80.2	62.9	78.0	86.7
62.5°	69.4	60.7	49.9	60.7	67.2
65°	52.0	47.7	39.0	45.5	52.0
67.5°	39.0	34.7	30.3	34.7	39.0
70°	30.3	28.2	23.8	26.0	30.3
72.5°	21.7	19.5	19.5	19.5	21.7
75°	15.2	15.2	15.2	15.2	15.2
77.5°	10.8	10.8	10.8	10.8	10.8
80°	6.5	6.5	8.7	8.7	8.7
82.5°	4.3	4.3	6.5	6.5	6.5
85°	4.3	4.3	4.3	4.3	4.3
87.5°	2.2	2.2	2.2	4.3	4.3
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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