

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: P838645

Luminaire Tested: HCSQ645D010-HM64560935-61SQH

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838645
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-2)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ645D010-HM64560935-61SQH
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

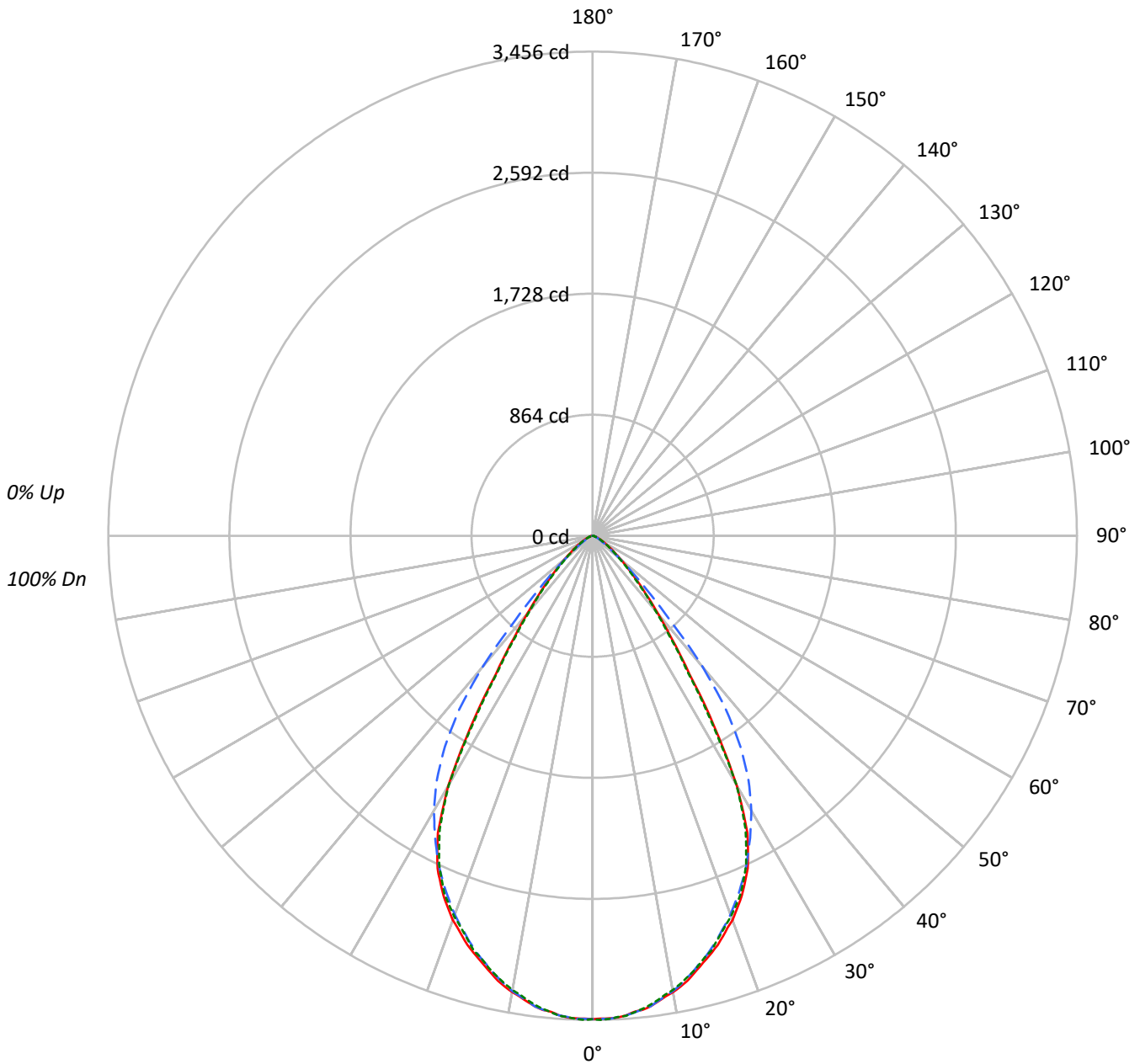
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3880.9 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.02 / 1.01 / 1.04
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 45.9
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			100																
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92			92																
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85			85																
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78			78																
4	95	87	81	76	93	86	80	76	83	78	75	81	77	74	79	76	73	71			71																
5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67	66			66																
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61			61																
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56			56																
8	76	65	59	54	74	65	59	54	64	58	54	63	57	54	62	57	54	52			52																
9	72	61	55	51	70	61	55	50	60	54	50	59	54	50	58	53	50	48			48																
10	68	58	51	47	67	57	51	47	56	51	47	55	50	47	55	50	47	45			45																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	148568	148568	148568
5°	147398	147649	147566
10°	144586	144249	143917
15°	139478	138711	138627
20°	133727	131798	132412
25°	124467	123380	123104
30°	102287	112563	101998
35°	63173	96671	61665
40°	40552	68520	39153
45°	26451	33209	25172
50°	17563	16538	16411
55°	11920	8617	11065
60°	8077	5270	7414
65°	5654	3902	5074
70°	3613	2895	3374
75°	2545	2229	2229
80°	1909	1413	1413
85°	939	1877	939

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 33209 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	322.3	8.3
10°-20°	874.6	22.5
20°-30°	1180.7	30.4
30°-40°	921.5	23.7
40°-50°	386.0	9.9
50°-60°	130.9	3.4
60°-70°	46.7	1.2
70°-80°	15.2	0.4
80°-90°	3.1	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°	2377.6	61.3
0°-40°	3299.1	85.0
0°-60°	3815.9	98.3
0°-90°	3880.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3880.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3451	3451	3451	3451	3451	
5°	3410	3414	3416	3410	3414	323
15°	3129	3122	3112	3108	3110	880
25°	2620	2609	2597	2597	2591	1178
35°	1202	1410	1839	1409	1173	790
45°	434	465	545	444	413	349
55°	159	146	115	138	147	147
65°	56	46	38	44	50	57
75°	15	13	13	13	13	17
85°	2	2	4	2	2	3
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3450.6	3450.6	3450.6	3450.6	3450.6
1°	3446.8	3452.5	3448.7	3450.6	3456.4
2°	3446.8	3446.8	3450.6	3448.7	3450.6
3°	3443.0	3443.0	3439.2	3439.2	3439.2
4°	3431.5	3431.5	3431.5	3427.7	3435.3
5°	3410.4	3414.3	3416.2	3410.4	3414.3
6°	3402.8	3404.7	3400.9	3399.0	3395.1
7°	3385.6	3379.8	3385.6	3372.2	3374.1
8°	3356.9	3356.9	3353.0	3349.2	3345.4
9°	3330.1	3330.1	3326.2	3320.5	3316.7
10°	3307.1	3301.4	3299.4	3293.7	3291.8
11°	3280.3	3268.8	3266.9	3261.2	3261.2
12°	3247.8	3242.0	3228.6	3226.7	3226.7
13°	3207.6	3201.8	3192.3	3184.6	3192.3
14°	3169.3	3165.5	3148.3	3154.0	3152.1
15°	3129.1	3121.5	3111.9	3108.1	3110.0
16°	3092.7	3079.4	3066.0	3067.9	3079.4
17°	3054.5	3035.3	3021.9	3020.0	3025.8
18°	3006.6	2991.3	2970.3	2977.9	2977.9
19°	2958.8	2937.7	2924.3	2922.4	2930.1
20°	2918.6	2886.1	2876.5	2874.6	2889.9
22.5°	2780.8	2748.3	2740.6	2748.3	2763.6
25°	2620.0	2608.6	2597.1	2597.1	2591.3
27.5°	2392.3	2419.1	2432.5	2405.7	2361.7
30°	2057.4	2170.3	2264.1	2156.9	2051.6
32.5°	1621.0	1854.5	2070.8	1848.8	1582.7
35°	1201.9	1410.5	1839.2	1408.6	1173.2
37.5°	926.3	1060.3	1563.6	1043.0	899.5
40°	721.5	800.0	1219.1	790.4	696.6
42.5°	560.8	610.5	811.5	599.0	541.6
45°	434.4	465.1	545.4	444.0	413.4
47.5°	338.7	352.1	373.2	336.8	319.6
50°	262.2	262.2	246.9	252.6	245.0
52.5°	202.9	195.2	166.5	183.7	187.6
55°	158.8	145.5	114.8	137.8	147.4
57.5°	120.6	107.2	82.3	101.4	111.0
60°	93.8	80.4	61.2	76.6	86.1
62.5°	72.7	61.2	47.8	57.4	65.1
65°	55.5	45.9	38.3	44.0	49.8
67.5°	42.1	34.4	28.7	32.5	38.3
70°	28.7	26.8	23.0	24.9	26.8
72.5°	21.1	19.1	17.2	17.2	19.1
75°	15.3	13.4	13.4	13.4	13.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	3.8	3.8	3.8	3.8	3.8
85°	1.9	1.9	3.8	1.9	1.9
87.5°	1.9	1.9	1.9	1.9	1.9
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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77.5°	9.6	9.6	9.6	9.6	9.6
80°	7.7	7.7	5.7	5.7	5.7

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