

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: P838650

Luminaire Tested: HCSQ645D010-HM64560940-61SQH

Issue Date: 5/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P838650
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-HM64560940-61SQH
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

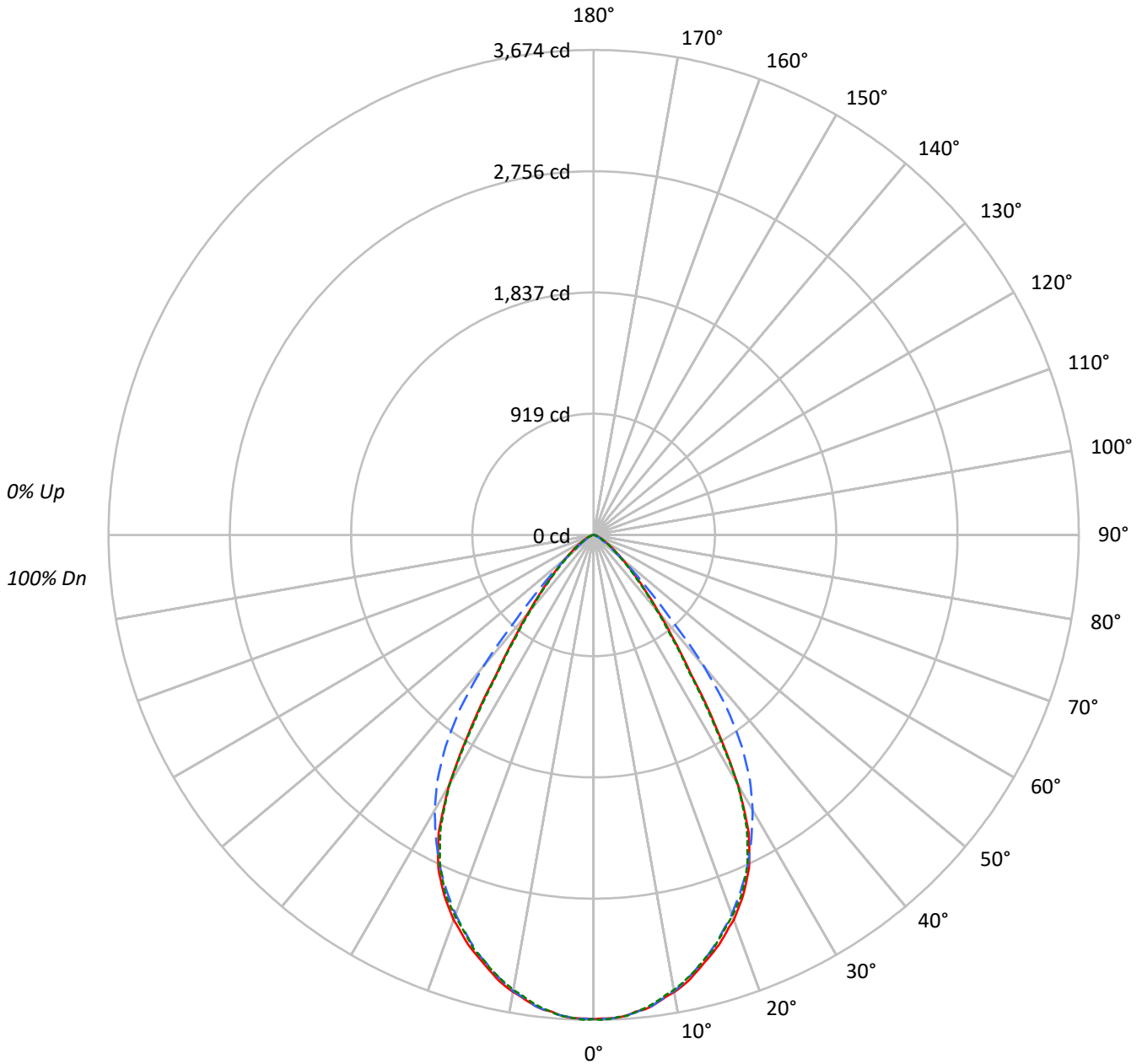
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4125.8 lumens
Efficiency: N/A
Efficacy: 89.9 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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CATALOG NUMBER: HCSQ645D010-HM64560940-61SQH

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					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	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	98	97	97	95	94	92
	1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92	92	91	88	86	85	85	85
	2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85	85	85	82	79	78	78	78
	3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78	78	79	76	73	71	71	71
	4	95	87	81	76	93	86	80	76	83	78	75	81	77	74	79	76	73	71	71	79	76	73	71	71	71
	5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67	66	66	74	70	67	66	66	66
	6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	70	65	62	61	61	61
	7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56	56	67	62	58	56	56	56
	8	76	65	59	54	74	65	59	54	64	58	54	63	57	54	62	57	54	52	52	62	57	54	52	52	52
	9	72	61	55	51	70	61	55	50	60	54	50	59	54	50	58	53	50	48	48	59	54	50	48	48	48
	10	68	58	51	47	67	57	51	47	56	51	47	55	50	47	55	50	47	45	45	55	50	47	45	45	45

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	157945	157945	157945
5°	156703	156967	156876
10°	153710	153356	152998
15°	148282	147466	147372
20°	142167	140114	140769
25°	132325	131166	130876
30°	108740	119662	108436
35°	67158	102773	65554
40°	43109	72842	41626
45°	28125	35310	26761
50°	18668	17583	17442
55°	12679	9165	11763
60°	8585	5606	7888
65°	6011	4146	5389
70°	3840	3072	3588
75°	2712	2362	2362
80°	2008	1512	1512
85°	988	2025	988

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 35310 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	342.6	8.3
10°-20°	929.8	22.5
20°-30°	1255.2	30.4
30°-40°	979.6	23.7
40°-50°	410.4	9.9
50°-60°	139.1	3.4
60°-70°	49.6	1.2
70°-80°	16.1	0.4
80°-90°	3.3	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°	2527.7	61.3
0°-40°	3507.3	85.0
0°-60°	4056.8	98.3
0°-90°	4125.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4125.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3668	3668	3668	3668	3668	
5°	3626	3630	3632	3626	3630	343
15°	3327	3318	3308	3304	3306	936
25°	2785	2773	2761	2761	2755	1253
35°	1278	1500	1955	1498	1247	840
45°	462	494	580	472	440	371
55°	169	155	122	146	157	156
65°	59	49	41	47	53	61
75°	16	14	14	14	14	18
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°	3668.4	3668.4	3668.4	3668.4	3668.4
1°	3664.3	3670.4	3666.4	3668.4	3674.5
2°	3664.3	3664.3	3668.4	3666.4	3668.4
3°	3660.3	3660.3	3656.2	3656.2	3656.2
4°	3648.1	3648.1	3648.1	3644.0	3652.1
5°	3625.7	3629.7	3631.8	3625.7	3629.7
6°	3617.5	3619.6	3615.5	3613.5	3609.4
7°	3599.2	3593.1	3599.2	3585.0	3587.0
8°	3568.7	3568.7	3564.6	3560.6	3556.5
9°	3540.2	3540.2	3536.2	3530.1	3526.0
10°	3515.8	3509.7	3507.7	3501.6	3499.5
11°	3487.3	3475.1	3473.1	3467.0	3467.0
12°	3452.7	3446.6	3432.4	3430.4	3430.4
13°	3410.0	3403.9	3393.7	3385.6	3393.7
14°	3369.3	3365.2	3346.9	3353.0	3351.0
15°	3326.6	3318.5	3308.3	3304.2	3306.2
16°	3287.9	3273.7	3259.4	3261.5	3273.7
17°	3247.2	3226.9	3212.7	3210.6	3216.7
18°	3196.4	3180.1	3157.7	3165.9	3165.9
19°	3145.5	3123.1	3108.9	3106.9	3115.0
20°	3102.8	3068.2	3058.0	3056.0	3072.3
22.5°	2956.3	2921.7	2913.6	2921.7	2938.0
25°	2785.4	2773.2	2761.0	2761.0	2754.9
27.5°	2543.3	2571.8	2586.0	2557.5	2510.7
30°	2187.2	2307.3	2406.9	2293.0	2181.1
32.5°	1723.3	1971.5	2201.5	1965.4	1682.6
35°	1277.7	1499.5	1955.3	1497.5	1247.2
37.5°	984.8	1127.2	1662.3	1108.9	956.3
40°	767.0	850.5	1296.0	840.3	740.6
42.5°	596.1	649.0	862.7	636.8	575.8
45°	461.9	494.4	579.9	472.0	439.5
47.5°	360.1	374.4	396.7	358.1	339.8
50°	278.7	278.7	262.5	268.6	260.4
52.5°	215.7	207.5	177.0	195.3	199.4
55°	168.9	154.6	122.1	146.5	156.7
57.5°	128.2	113.9	87.5	107.8	118.0
60°	99.7	85.5	65.1	81.4	91.6
62.5°	77.3	65.1	50.9	61.0	69.2
65°	59.0	48.8	40.7	46.8	52.9
67.5°	44.8	36.6	30.5	34.6	40.7
70°	30.5	28.5	24.4	26.4	28.5
72.5°	22.4	20.3	18.3	18.3	20.3
75°	16.3	14.2	14.2	14.2	14.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	4.1	4.1	4.1	4.1	4.1
85°	2.0	2.0	4.1	2.0	2.0
87.5°	2.0	2.0	2.0	2.0	2.0
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°	10.2	10.2	10.2	10.2	10.2
80°	8.1	8.1	6.1	6.1	6.1

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