

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: P837564

Luminaire Tested: HCSQ445D010-HM44560835-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837564
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: HCSQ445D010-HM44560835-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

Summary

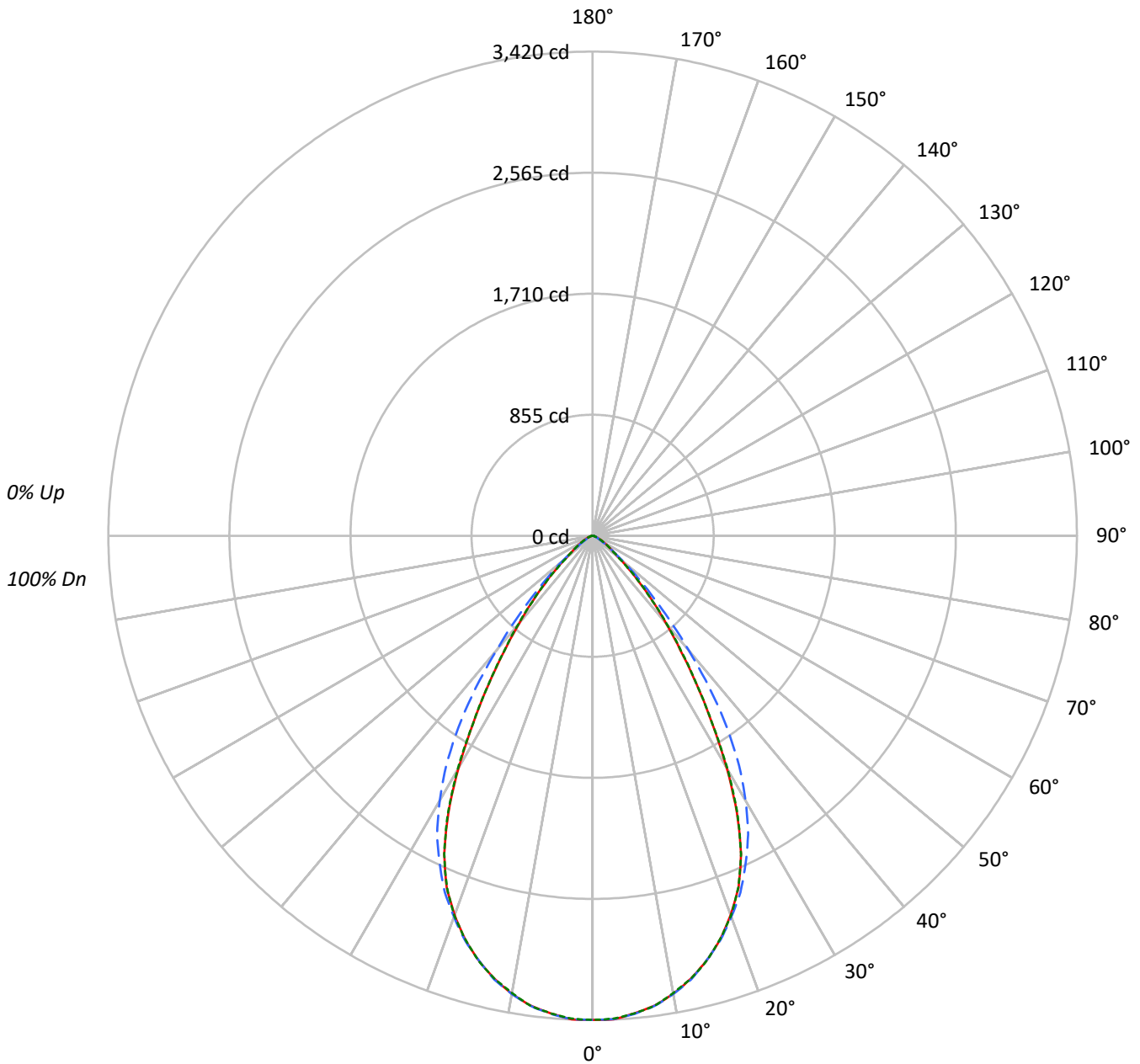
Lumens per Lamp: N/A
Luminaire Lumens: 3844.5 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 45.9
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									
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°	331324	331324	331324
5°	329302	329711	329302
10°	323135	323342	322516
15°	311660	311449	311871
20°	293783	295309	294443
25°	265098	273222	265098
30°	211733	241745	213388
35°	151152	195619	151400
40°	102055	133038	103648
45°	64830	78722	65117
50°	36924	42018	35658
55°	24254	20335	23899
60°	16779	11877	16372
65°	11622	8711	11622
70°	8384	6571	8384
75°	5540	5540	5540
80°	3515	4686	4686
85°	4668	4668	4668

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 78722 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	320.4	8.3
10°-20°	871.2	22.7
20°-30°	1140.7	29.7
30°-40°	896.5	23.3
40°-50°	418.8	10.9
50°-60°	129.8	3.4
60°-70°	46.3	1.2
70°-80°	16.3	0.4
80°-90°	4.5	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°	2332.3	60.7
0°-40°	3228.9	84.0
0°-60°	3777.4	98.3
0°-90°	3844.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3844.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3420	3420	3420	3420	3420	
5°	3386	3388	3390	3395	3386	320
15°	3108	3108	3105	3108	3110	870
25°	2480	2514	2556	2516	2480	1115
35°	1278	1394	1654	1411	1280	806
45°	473	530	575	520	475	377
55°	144	135	120	133	142	134
65°	51	46	38	44	51	53
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°	3420.1	3420.1	3420.1	3420.1	3420.1
2.5°	3420.1	3415.9	3418.0	3413.8	3413.8
5°	3386.3	3388.4	3390.5	3394.8	3386.3
7.5°	3348.3	3352.5	3350.4	3350.4	3350.4
10°	3284.9	3287.0	3287.0	3287.0	3278.6
12.5°	3204.6	3208.9	3211.0	3204.6	3204.6
15°	3107.5	3107.5	3105.4	3107.5	3109.6
17.5°	2991.3	2997.6	2997.6	2991.3	2989.2
20°	2849.7	2860.3	2864.5	2856.1	2856.1
22.5°	2691.3	2701.9	2727.2	2706.1	2689.2
25°	2480.1	2513.9	2556.1	2516.0	2480.1
27.5°	2207.5	2281.5	2378.7	2294.2	2213.9
30°	1892.8	2013.2	2161.1	2019.5	1907.6
32.5°	1571.7	1706.9	1924.5	1717.4	1571.7
35°	1278.1	1394.2	1654.1	1411.1	1280.2
37.5°	1016.1	1128.1	1356.2	1140.7	1030.9
40°	807.0	897.8	1052.0	895.7	819.6
42.5°	629.5	695.0	796.4	692.9	627.4
45°	473.2	530.2	574.6	519.7	475.3
47.5°	348.6	386.6	411.9	380.2	340.1
50°	245.0	272.5	278.8	266.2	236.6
52.5°	183.8	183.8	185.9	181.7	179.6
55°	143.6	135.2	120.4	133.1	141.5
57.5°	112.0	103.5	84.5	99.3	109.8
60°	86.6	78.2	61.3	76.0	84.5
62.5°	67.6	59.1	48.6	59.1	65.5
65°	50.7	46.5	38.0	44.4	50.7
67.5°	38.0	33.8	29.6	33.8	38.0
70°	29.6	27.5	23.2	25.3	29.6
72.5°	21.1	19.0	19.0	19.0	21.1
75°	14.8	14.8	14.8	14.8	14.8
77.5°	10.6	10.6	10.6	10.6	10.6
80°	6.3	6.3	8.4	8.4	8.4
82.5°	4.2	4.2	6.3	6.3	6.3
85°	4.2	4.2	4.2	4.2	4.2
87.5°	2.1	2.1	2.1	4.2	4.2
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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