

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: P837569

Luminaire Tested: HCSQ445D010-HM44560840-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837569
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-HM44560840-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

Summary

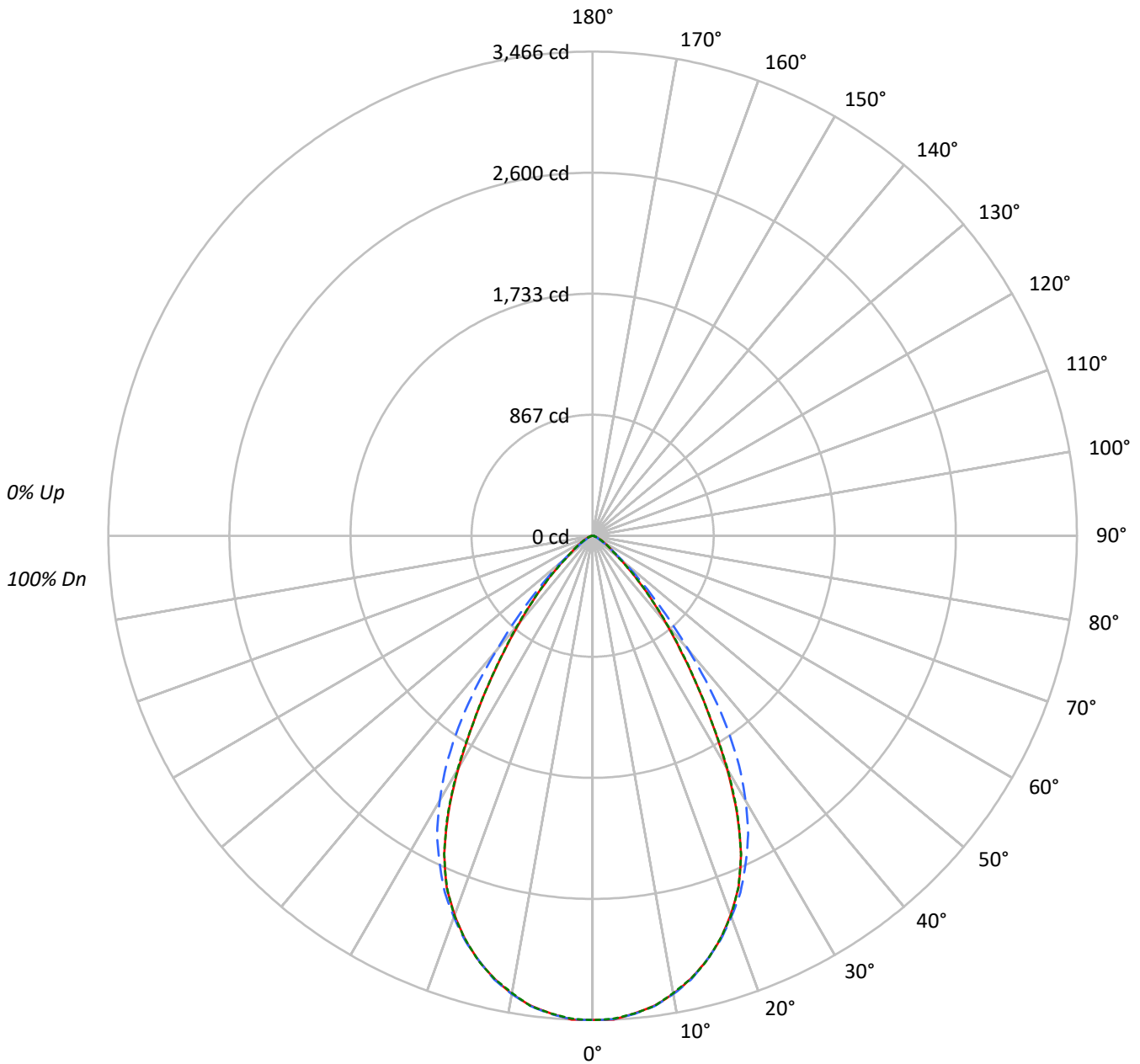
Lumens per Lamp: N/A
Luminaire Lumens: 3896.4 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 45.9
Input Voltage (V): NR
Input Current (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					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			
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°	335799	335799	335799
5°	333746	334165	333746
10°	327493	327709	326863
15°	315862	315642	316073
20°	297752	299299	298412
25°	268669	276910	268669
30°	214585	245000	216263
35°	153186	198256	153434
40°	103433	134834	105052
45°	65706	79777	65994
50°	37437	42591	36141
55°	24591	20605	24220
60°	17011	12032	16585
65°	11782	8825	11782
70°	8497	6685	8497
75°	5614	5614	5614
80°	3570	4798	4798
85°	4780	4780	4780

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 79777 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	324.7	8.3
10°-20°	883.0	22.7
20°-30°	1156.1	29.7
30°-40°	908.6	23.3
40°-50°	424.4	10.9
50°-60°	131.5	3.4
60°-70°	46.9	1.2
70°-80°	16.5	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°	2363.8	60.7
0°-40°	3272.4	84.0
0°-60°	3828.4	98.3
0°-90°	3896.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3896.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3466	3466	3466	3466	3466	
5°	3432	3434	3436	3441	3432	325
15°	3149	3149	3147	3149	3152	882
25°	2514	2548	2591	2550	2514	1130
35°	1295	1413	1676	1430	1297	817
45°	480	537	582	527	482	382
55°	146	137	122	135	143	136
65°	51	47	38	45	51	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°	3466.3	3466.3	3466.3	3466.3	3466.3
2.5°	3466.3	3462.0	3464.1	3459.8	3459.8
5°	3432.0	3434.1	3436.3	3440.6	3432.0
7.5°	3393.5	3397.7	3395.6	3395.6	3395.6
10°	3329.2	3331.4	3331.4	3331.4	3322.8
12.5°	3247.9	3252.2	3254.3	3247.9	3247.9
15°	3149.4	3149.4	3147.2	3149.4	3151.5
17.5°	3031.6	3038.1	3038.1	3031.6	3029.5
20°	2888.2	2898.9	2903.2	2894.6	2894.6
22.5°	2727.6	2738.3	2764.0	2742.6	2725.5
25°	2513.5	2547.8	2590.6	2549.9	2513.5
27.5°	2237.3	2312.3	2410.7	2325.1	2243.8
30°	1918.3	2040.4	2190.2	2046.8	1933.3
32.5°	1592.9	1729.9	1950.4	1740.6	1592.9
35°	1295.3	1413.1	1676.4	1430.2	1297.4
37.5°	1029.8	1143.3	1374.5	1156.1	1044.8
40°	817.9	909.9	1066.2	907.8	830.7
42.5°	638.0	704.4	807.2	702.2	635.9
45°	479.6	537.4	582.3	526.7	481.7
47.5°	353.3	391.8	417.5	385.4	344.7
50°	248.4	276.2	282.6	269.8	239.8
52.5°	186.3	186.3	188.4	184.1	182.0
55°	145.6	137.0	122.0	134.9	143.4
57.5°	113.5	104.9	85.6	100.6	111.3
60°	87.8	79.2	62.1	77.1	85.6
62.5°	68.5	59.9	49.2	59.9	66.4
65°	51.4	47.1	38.5	45.0	51.4
67.5°	38.5	34.3	30.0	34.3	38.5
70°	30.0	27.8	23.6	25.7	30.0
72.5°	21.4	19.3	19.3	19.3	21.4
75°	15.0	15.0	15.0	15.0	15.0
77.5°	10.7	10.7	10.7	10.7	10.7
80°	6.4	6.4	8.6	8.6	8.6
82.5°	4.3	4.3	6.4	6.4	6.4
85°	4.3	4.3	4.3	4.3	4.3
87.5°	2.1	2.1	2.1	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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