

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: P837577

Luminaire Tested: HCSQ445D010-HM44560927-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837577
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ445D010-HM44560927-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

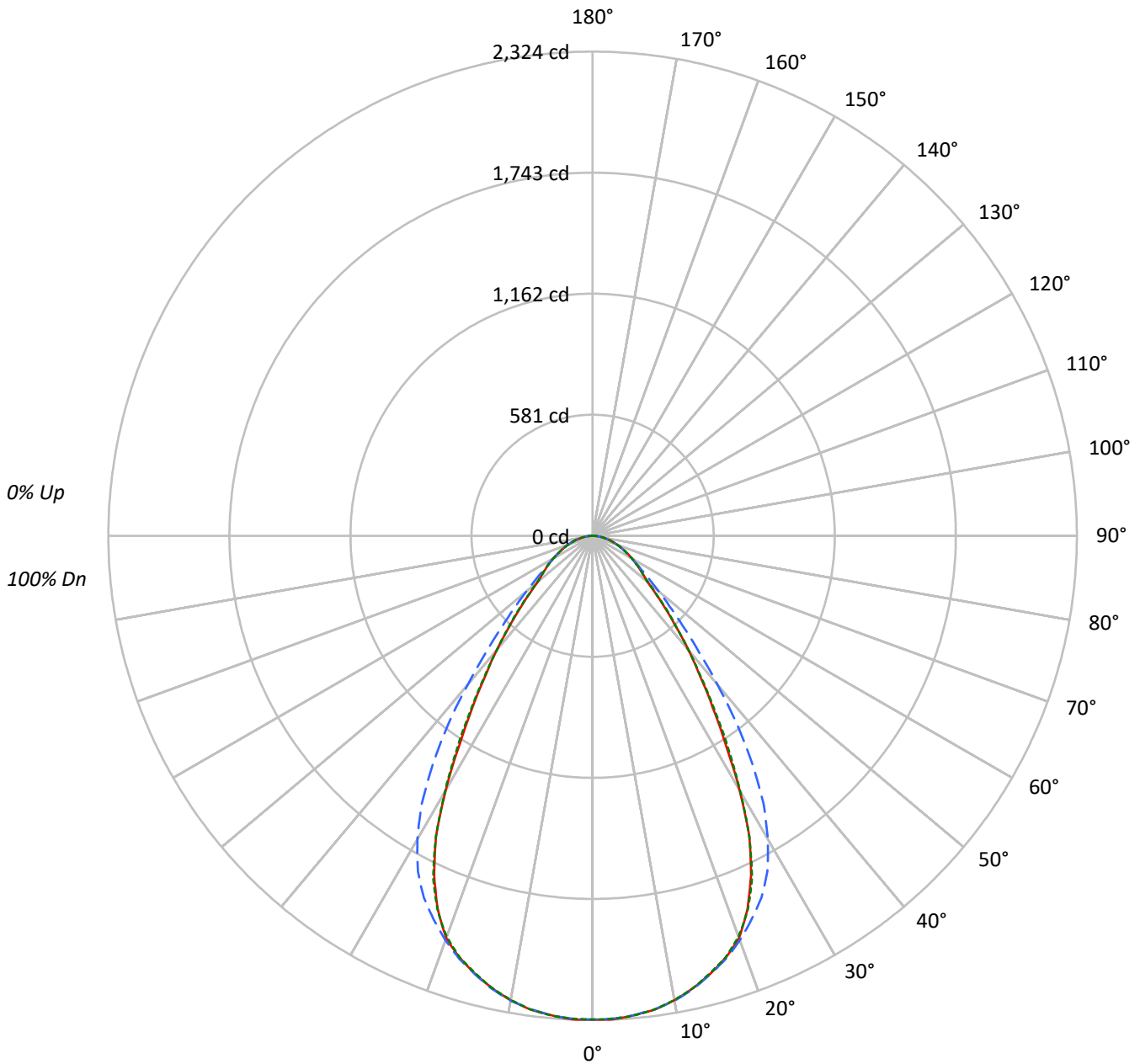
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3369.7 lumens
Efficiency: N/A
Efficacy: 73.4 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
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					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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	224945	224945	224945
5°	224579	224579	224754
10°	222729	222906	222552
15°	218398	218578	218037
20°	211855	212969	211103
25°	192274	204802	193621
30°	157826	188096	158430
35°	118630	157893	120344
40°	90357	117736	90129
45°	67474	83544	68720
50°	51393	62274	52478
55°	46312	48761	46312
60°	42296	41947	41947
65°	38464	38464	38464
70°	35774	35264	35264
75°	33088	32414	33088
80°	30181	29177	30181
85°	26121	26121	26121

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 83544 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.0	6.5
10°-20°	613.0	18.2
20°-30°	843.2	25.0
30°-40°	717.8	21.3
40°-50°	433.5	12.9
50°-60°	255.5	7.6
60°-70°	167.6	5.0
70°-80°	92.9	2.8
80°-90°	27.2	0.8
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°	1675.2	49.7
0°-40°	2393.0	71.0
0°-60°	3082.0	91.5
0°-90°	3369.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3369.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2322	2322	2322	2322	2322	
5°	2309	2311	2309	2308	2311	219
15°	2178	2183	2179	2178	2174	613
25°	1799	1855	1916	1858	1811	813
35°	1003	1104	1335	1135	1018	635
45°	492	545	610	550	502	387
55°	274	280	289	280	274	247
65°	168	170	168	168	168	168
75°	88	88	87	87	88	94
85°	24	24	24	24	24	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2322.0	2322.0	2322.0	2322.0	2322.0
2.5°	2323.8	2318.4	2320.2	2318.4	2320.2
5°	2309.4	2311.2	2309.4	2307.5	2311.2
7.5°	2293.1	2291.3	2291.3	2289.5	2293.1
10°	2264.2	2260.6	2266.0	2262.4	2262.4
12.5°	2224.6	2230.0	2228.2	2228.2	2224.6
15°	2177.6	2183.1	2179.4	2177.6	2174.0
17.5°	2123.5	2127.1	2128.9	2121.7	2121.7
20°	2055.0	2062.2	2065.8	2053.2	2047.7
22.5°	1941.3	1973.8	1993.6	1972.0	1944.9
25°	1798.8	1854.7	1916.0	1858.3	1811.4
27.5°	1627.4	1706.8	1816.8	1719.4	1627.4
30°	1410.9	1528.1	1681.5	1540.8	1416.3
32.5°	1187.2	1311.6	1526.3	1333.3	1212.4
35°	1003.1	1104.2	1335.1	1134.8	1017.6
37.5°	844.4	931.0	1134.8	950.8	853.4
40°	714.5	783.0	931.0	792.0	712.7
42.5°	590.0	654.9	754.1	663.9	597.2
45°	492.5	544.9	609.8	550.3	501.6
47.5°	409.5	452.8	499.8	452.8	415.0
50°	341.0	375.3	413.2	375.3	348.2
52.5°	304.9	315.7	341.0	317.5	304.9
55°	274.2	279.6	288.7	279.6	274.2
57.5°	245.4	249.0	247.2	247.2	245.4
60°	218.3	220.1	216.5	218.3	216.5
62.5°	193.0	193.0	189.4	193.0	191.2
65°	167.8	169.6	167.8	167.8	167.8
67.5°	146.1	146.1	144.3	146.1	146.1
70°	126.3	126.3	124.5	126.3	124.5
72.5°	106.4	106.4	104.6	104.6	104.6
75°	88.4	88.4	86.6	86.6	88.4
77.5°	70.4	70.4	68.6	70.4	70.4
80°	54.1	54.1	52.3	54.1	54.1
82.5°	37.9	37.9	37.9	39.7	39.7
85°	23.5	23.5	23.5	23.5	23.5
87.5°	10.8	10.8	10.8	10.8	12.6
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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