

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: P837652

Luminaire Tested: HCSQ455D010-HM44560840-41SQMW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837652
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: HCSQ455D010-HM44560840-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

Summary

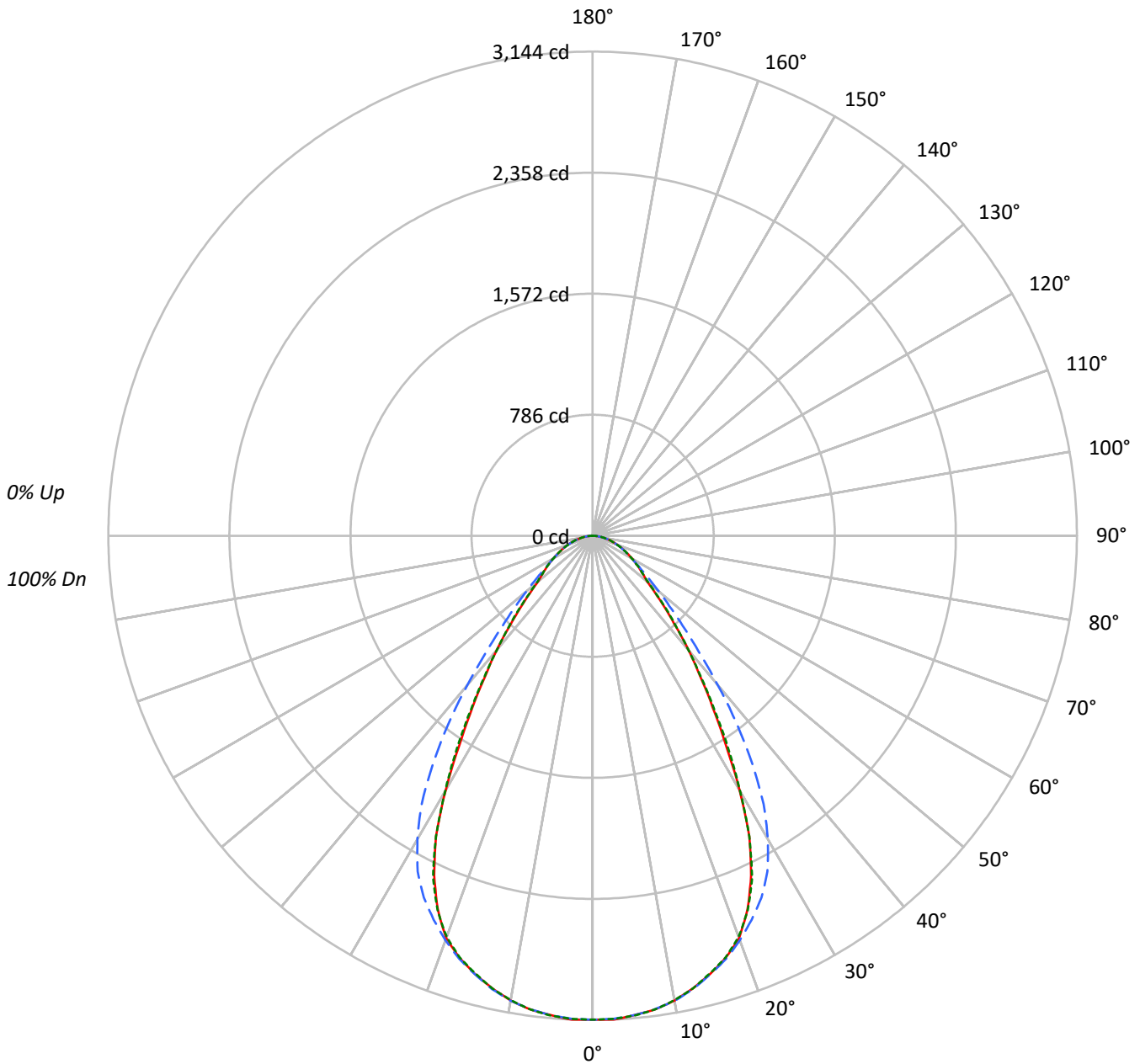
Lumens per Lamp: N/A
Luminaire Lumens: 4559.5 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 54
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																			
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°	304373	304373	304373
5°	303873	303873	304116
10°	301386	301622	301140
15°	295523	295764	295031
20°	286660	288165	285649
25°	260160	277124	261988
30°	213556	254520	214373
35°	160518	213642	162836
40°	122251	159304	121947
45°	91312	113041	92984
50°	69538	84248	71015
55°	62678	65971	62678
60°	57234	56769	56769
65°	52034	52034	52034
70°	48407	47698	47698
75°	44766	43868	44766
80°	40837	39498	40837
85°	35235	35235	35235

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 113041 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	296.3	6.5
10°-20°	829.5	18.2
20°-30°	1140.9	25.0
30°-40°	971.2	21.3
40°-50°	586.6	12.9
50°-60°	345.8	7.6
60°-70°	226.7	5.0
70°-80°	125.7	2.8
80°-90°	36.8	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°	2266.7	49.7
0°-40°	3237.9	71.0
0°-60°	4170.3	91.5
0°-90°	4559.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4559.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3142	3142	3142	3142	3142	
5°	3125	3127	3125	3122	3127	297
15°	2947	2954	2949	2947	2942	829
25°	2434	2510	2593	2514	2451	1100
35°	1357	1494	1806	1536	1377	859
45°	666	737	825	745	679	524
55°	371	378	391	378	371	334
65°	227	230	227	227	227	227
75°	120	120	117	117	120	127
85°	32	32	32	32	32	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3141.9	3141.9	3141.9	3141.9	3141.9
2.5°	3144.3	3137.0	3139.5	3137.0	3139.5
5°	3124.8	3127.3	3124.8	3122.4	3127.3
7.5°	3102.8	3100.4	3100.4	3098.0	3102.8
10°	3063.8	3058.9	3066.2	3061.3	3061.3
12.5°	3010.1	3017.4	3015.0	3015.0	3010.1
15°	2946.6	2953.9	2949.0	2946.6	2941.7
17.5°	2873.4	2878.2	2880.7	2870.9	2870.9
20°	2780.6	2790.4	2795.2	2778.2	2770.8
22.5°	2626.8	2670.7	2697.6	2668.3	2631.7
25°	2433.9	2509.6	2592.6	2514.5	2451.0
27.5°	2202.0	2309.4	2458.4	2326.5	2202.0
30°	1909.1	2067.7	2275.3	2084.8	1916.4
32.5°	1606.4	1774.8	2065.3	1804.1	1640.5
35°	1357.3	1494.1	1806.5	1535.6	1376.9
37.5°	1142.5	1259.7	1535.6	1286.5	1154.7
40°	966.7	1059.5	1259.7	1071.7	964.3
42.5°	798.3	886.2	1020.4	898.4	808.1
45°	666.5	737.3	825.1	744.6	678.7
47.5°	554.2	612.8	676.2	612.8	561.5
50°	461.4	507.8	559.0	507.8	471.2
52.5°	412.6	427.2	461.4	429.7	412.6
55°	371.1	378.4	390.6	378.4	371.1
57.5°	332.0	336.9	334.5	334.5	332.0
60°	295.4	297.8	293.0	295.4	293.0
62.5°	261.2	261.2	256.3	261.2	258.8
65°	227.0	229.5	227.0	227.0	227.0
67.5°	197.7	197.7	195.3	197.7	197.7
70°	170.9	170.9	168.4	170.9	168.4
72.5°	144.0	144.0	141.6	141.6	141.6
75°	119.6	119.6	117.2	117.2	119.6
77.5°	95.2	95.2	92.8	95.2	95.2
80°	73.2	73.2	70.8	73.2	73.2
82.5°	51.3	51.3	51.3	53.7	53.7
85°	31.7	31.7	31.7	31.7	31.7
87.5°	14.6	14.6	14.6	14.6	17.1
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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