

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: P837533

Luminaire Tested: HCSQ440D010-HM43040927-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837533
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ440D010-HM43040927-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

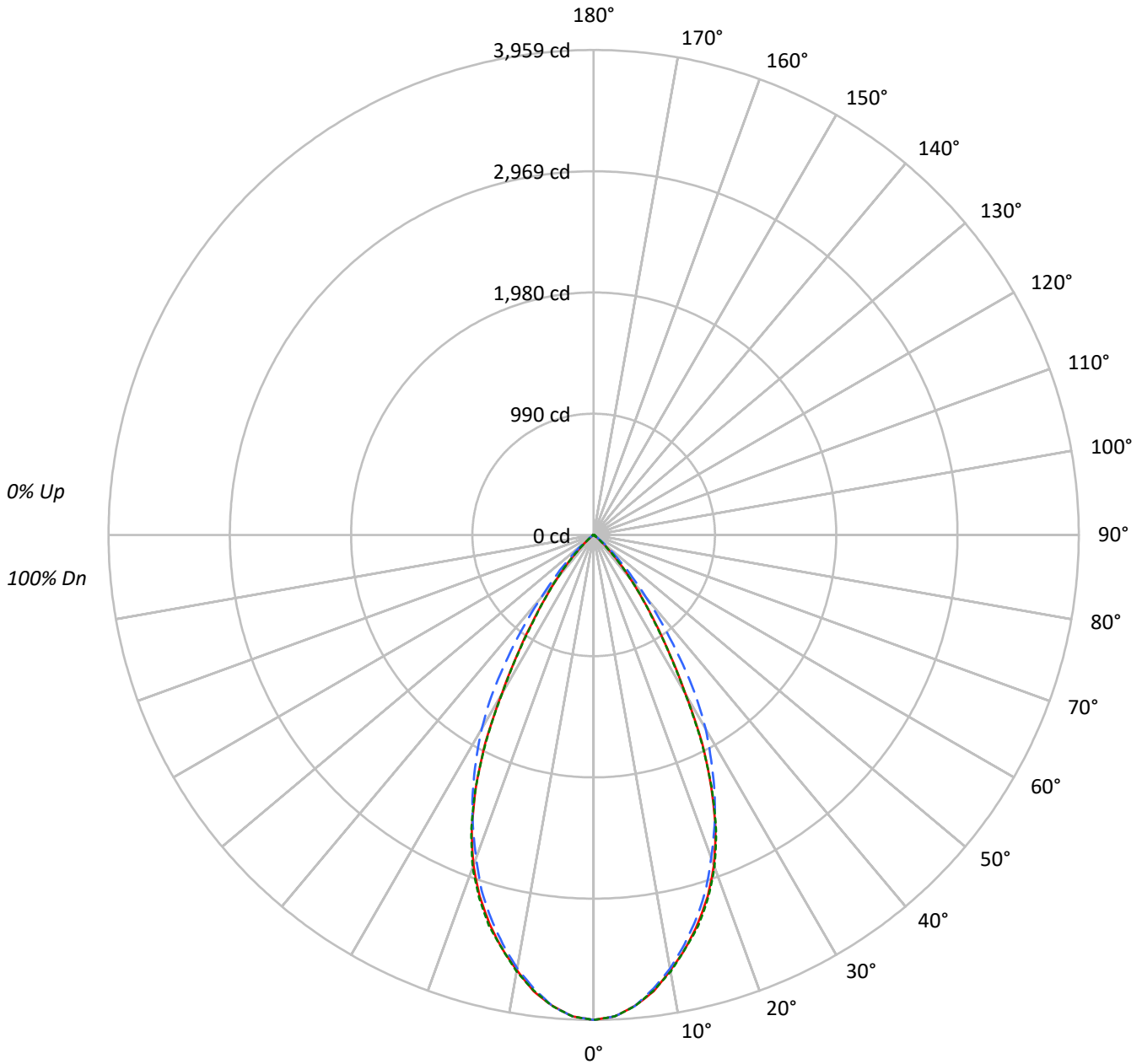
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3199.2 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 41
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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94																			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87																			
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81																			
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76																			
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71																			
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66																			
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62																			
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58																			
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55																			
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	383530	383530	383530
5°	375309	375465	375465
10°	354987	353404	355932
15°	329382	324869	331147
20°	295670	289041	297495
25°	242844	249888	243699
30°	167871	204171	166607
35°	103374	144222	100902
40°	58312	84325	57907
45°	26633	42265	25537
50°	6782	16955	7023
55°	3260	5151	2989
60°	2170	1860	2499
65°	1834	1467	1834
70°	1360	1360	1813
75°	1198	1198	1797
80°	1785	1785	1785
85°	1778	3557	3557

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 42265 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.1	11.3
10°-20°	909.5	28.4
20°-30°	1039.7	32.5
30°-40°	645.4	20.2
40°-50°	203.4	6.4
50°-60°	26.3	0.8
60°-70°	7.8	0.2
70°-80°	4.1	0.1
80°-90°	2.8	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°	2309.4	72.2
0°-40°	2954.8	92.4
0°-60°	3184.6	99.5
0°-90°	3199.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3199.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3959	3959	3959	3959	3959	
5°	3859	3856	3861	3858	3861	361
15°	3284	3260	3239	3260	3302	916
25°	2272	2304	2338	2304	2280	1019
35°	874	1009	1220	985	853	562
45°	194	233	308	235	186	164
55°	19	19	30	19	18	19
65°	8	8	6	8	8	8
75°	3	3	3	3	5	4
85°	2	3	3	3	3	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3959.0	3959.0	3959.0	3959.0	3959.0
2.5°	3934.9	3938.1	3934.9	3941.3	3934.9
5°	3859.4	3856.1	3861.0	3857.8	3861.0
7.5°	3756.5	3737.2	3735.6	3748.5	3750.1
10°	3608.7	3603.9	3592.6	3603.9	3618.3
12.5°	3457.7	3438.4	3422.3	3444.8	3457.7
15°	3284.2	3260.0	3239.2	3260.0	3301.8
17.5°	3092.9	3059.2	3041.5	3065.6	3105.8
20°	2868.0	2832.7	2803.7	2824.6	2885.7
22.5°	2598.1	2594.9	2575.6	2586.8	2609.3
25°	2271.9	2304.0	2337.8	2304.0	2279.9
27.5°	1913.6	2000.4	2077.5	1976.3	1899.2
30°	1500.7	1632.4	1825.2	1622.8	1489.4
32.5°	1160.1	1298.2	1544.1	1280.6	1150.4
35°	874.1	1009.0	1219.5	984.9	853.2
37.5°	642.7	743.9	927.1	737.5	642.7
40°	461.1	527.0	666.8	525.4	457.9
42.5°	319.7	363.1	466.0	359.9	310.1
45°	194.4	233.0	308.5	234.6	186.4
47.5°	102.8	147.8	194.4	141.4	102.8
50°	45.0	78.7	112.5	77.1	46.6
52.5°	24.1	33.7	61.1	33.7	24.1
55°	19.3	19.3	30.5	19.3	17.7
57.5°	14.5	14.5	16.1	14.5	14.5
60°	11.2	11.2	9.6	11.2	12.9
62.5°	9.6	9.6	8.0	9.6	9.6
65°	8.0	8.0	6.4	8.0	8.0
67.5°	6.4	6.4	6.4	6.4	6.4
70°	4.8	4.8	4.8	6.4	6.4
72.5°	4.8	4.8	4.8	4.8	4.8
75°	3.2	3.2	3.2	3.2	4.8
77.5°	3.2	3.2	3.2	3.2	3.2
80°	3.2	3.2	3.2	3.2	3.2
82.5°	1.6	3.2	3.2	3.2	3.2
85°	1.6	3.2	3.2	3.2	3.2
87.5°	1.6	1.6	3.2	3.2	3.2
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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