

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: P838575

Luminaire Tested: HCSQ640D010-HM63040827-61SQH

Issue Date: 5/21/2024

**Test Information**

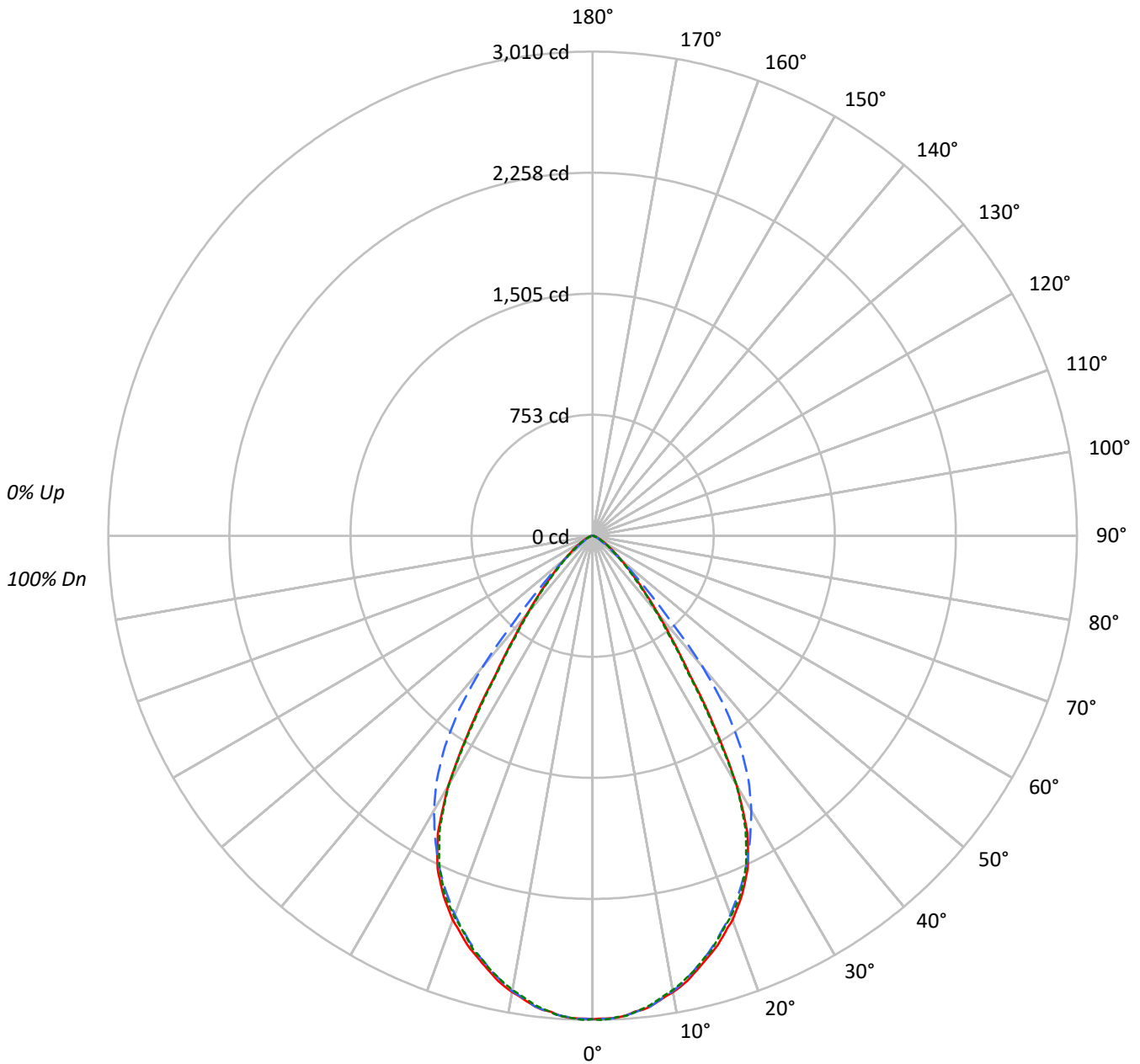
Test Method: LM-79-2019  
Report Number: P838575  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ640D010-HM63040827-61SQH  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3380.2 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.01 / 1.04  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92								
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85								
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78								
4	95	87	81	76	93	86	80	76	83	78	75	81	77	74	79	76	73	71								
5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67	66								
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61								
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56								
8	76	65	59	54	74	65	59	54	64	58	54	63	57	54	62	57	54	52								
9	72	61	55	51	70	61	55	50	60	54	50	59	54	50	58	53	50	48								
10	68	58	51	47	67	57	51	47	56	51	47	55	50	47	55	50	47	45								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	129404	129404	129404
5°	128385	128601	128528
10°	125935	125642	125349
15°	121488	120815	120743
20°	116476	114795	115331
25°	108410	107460	107223
30°	89092	98041	88843
35°	55021	84198	53707
40°	35319	59679	34105
45°	23041	28929	21926
50°	15299	14401	14294
55°	10389	7507	9638
60°	7035	4590	6458
65°	4921	3393	4411
70°	3147	2518	2933
75°	2213	1946	1946
80°	1661	1240	1240
85°	840	1630	840

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 28929 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	280.7	8.3
10°-20°	761.8	22.5
20°-30°	1028.4	30.4
30°-40°	802.6	23.7
40°-50°	336.2	9.9
50°-60°	114.0	3.4
60°-70°	40.6	1.2
70°-80°	13.2	0.4
80°-90°	2.7	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°	2070.9	61.3
0°-40°	2873.5	85.0
0°-60°	3323.7	98.3
0°-90°	3380.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3380.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3006	3006	3006	3006	3006	
5°	2970	2974	2976	2970	2974	281
15°	2726	2719	2710	2707	2709	767
25°	2282	2272	2262	2262	2257	1026
35°	1047	1228	1602	1227	1022	688
45°	378	405	475	387	360	304
55°	138	127	100	120	128	128
65°	48	40	33	38	43	50
75°	13	12	12	12	12	15
85°	2	2	3	2	2	3
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3005.5	3005.5	3005.5	3005.5	3005.5
1°	3002.2	3007.2	3003.8	3005.5	3010.5
2°	3002.2	3002.2	3005.5	3003.8	3005.5
3°	2998.8	2998.8	2995.5	2995.5	2995.5
4°	2988.8	2988.8	2988.8	2985.5	2992.2
5°	2970.5	2973.8	2975.5	2970.5	2973.8
6°	2963.8	2965.5	2962.2	2960.5	2957.2
7°	2948.8	2943.8	2948.8	2937.2	2938.8
8°	2923.8	2923.8	2920.5	2917.1	2913.8
9°	2900.5	2900.5	2897.1	2892.1	2888.8
10°	2880.5	2875.5	2873.8	2868.8	2867.1
11°	2857.1	2847.1	2845.5	2840.5	2840.5
12°	2828.8	2823.8	2812.1	2810.5	2810.5
13°	2793.8	2788.8	2780.5	2773.8	2780.5
14°	2760.5	2757.1	2742.1	2747.1	2745.5
15°	2725.5	2718.8	2710.4	2707.1	2708.8
16°	2693.8	2682.1	2670.4	2672.1	2682.1
17°	2660.4	2643.8	2632.1	2630.4	2635.4
18°	2618.8	2605.4	2587.1	2593.8	2593.8
19°	2577.1	2558.8	2547.1	2545.4	2552.1
20°	2542.1	2513.7	2505.4	2503.7	2517.1
22.5°	2422.1	2393.7	2387.1	2393.7	2407.1
25°	2282.0	2272.0	2262.0	2262.0	2257.0
27.5°	2083.7	2107.0	2118.7	2095.3	2057.0
30°	1792.0	1890.3	1972.0	1878.6	1787.0
32.5°	1411.9	1615.3	1803.6	1610.3	1378.6
35°	1046.8	1228.5	1601.9	1226.9	1021.8
37.5°	806.8	923.5	1361.9	908.5	783.5
40°	628.4	696.8	1061.8	688.4	606.8
42.5°	488.4	531.8	706.8	521.8	471.7
45°	378.4	405.1	475.1	386.7	360.1
47.5°	295.0	306.7	325.1	293.4	278.4
50°	228.4	228.4	215.0	220.0	213.4
52.5°	176.7	170.0	145.0	160.0	163.4
55°	138.4	126.7	100.0	120.0	128.4
57.5°	105.0	93.3	71.7	88.3	96.7
60°	81.7	70.0	53.3	66.7	75.0
62.5°	63.3	53.3	41.7	50.0	56.7
65°	48.3	40.0	33.3	38.3	43.3
67.5°	36.7	30.0	25.0	28.3	33.3
70°	25.0	23.3	20.0	21.7	23.3
72.5°	18.3	16.7	15.0	15.0	16.7
75°	13.3	11.7	11.7	11.7	11.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	3.3	3.3	3.3	3.3	3.3
85°	1.7	1.7	3.3	1.7	1.7
87.5°	1.7	1.7	1.7	1.7	1.7
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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Scaled Data Report





77.5°	8.3	8.3	8.3	8.3	8.3
80°	6.7	6.7	5.0	5.0	5.0

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Scaled Data Report



(END OF REPORT)