

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: P838772

Luminaire Tested: HCSQ660D010-HM64560940-61SQMB

Issue Date: 5/21/2024

**Test Information**

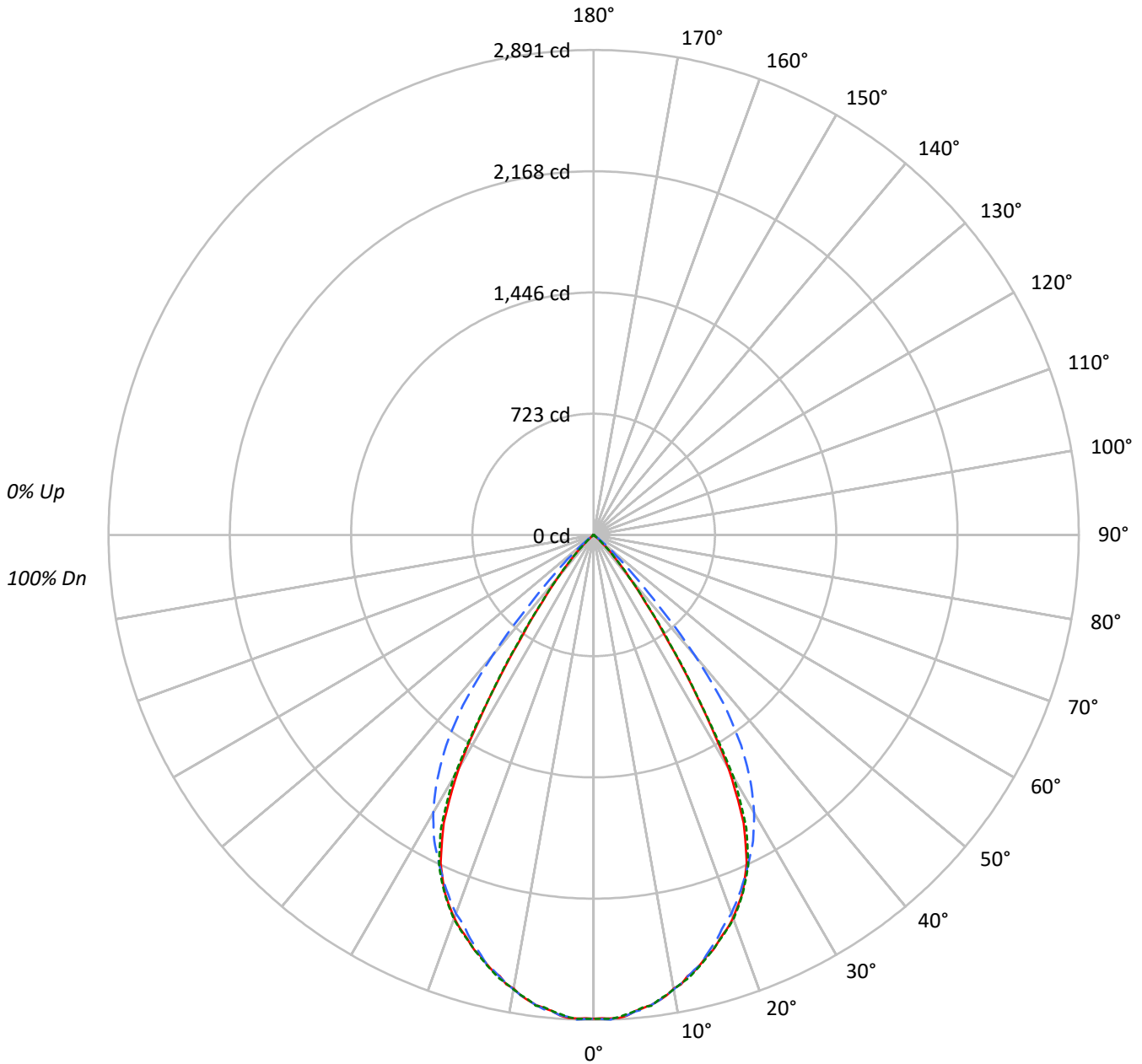
Test Method: LM-79-2019  
Report Number: P838772  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ660D010-HM64560940-61SQMB  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2867.0 lumens  
Efficiency: N/A  
Efficacy: 51.2 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.01 / 1.03  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 56  
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	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	93								
2	108	103	99	96	106	101	98	94	98	95	92	95	93	90	92	90	89	87								
3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	85	82	81								
4	97	89	84	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75								
5	92	84	78	73	90	83	77	73	81	76	72	79	75	72	78	74	71	70								
6	87	78	72	68	86	77	72	68	76	71	67	75	70	67	73	69	66	65								
7	83	73	67	63	81	73	67	63	71	66	63	70	66	62	69	65	62	60								
8	79	69	63	59	77	68	63	59	67	62	58	66	62	58	65	61	58	56								
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53								
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50								

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

	0°	45°	90°
0°	124177	124177	124177
5°	123134	123234	123134
10°	120050	120256	120256
15°	115920	115608	116237
20°	111322	110034	111642
25°	102510	103289	103512
30°	79904	95048	82937
35°	40514	80540	41991
40°	18435	52675	18435
45°	7130	19832	6990
50°	1099	6276	1099
55°	353	1231	353
60°	198	198	198
65°	234	0	234
70°	0	0	290
75°	0	0	383
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 19832 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	269.3	9.4
10°-20°	730.3	25.5
20°-30°	984.5	34.3
30°-40°	692.2	24.1
40°-50°	176.8	6.2
50°-60°	12.2	0.4
60°-70°	1.4	0.1
70°-80°	0.2	0.0
80°-90°	0.0	0.0
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°	1984.2	69.2
0°-40°	2676.4	93.4
0°-60°	2865.3	99.9
0°-90°	2867.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2867.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2884	2884	2884	2884	2884	
5°	2849	2854	2851	2854	2849	269
15°	2601	2596	2594	2601	2608	732
25°	2158	2165	2174	2181	2179	964
35°	771	1022	1532	1047	799	519
45°	117	176	326	178	115	102
55°	5	5	16	5	5	6
65°	2	2	0	2	2	2
75°	0	0	0	0	2	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2884.1	2884.1	2884.1	2884.1	2884.1
1°	2881.8	2884.1	2886.5	2886.5	2884.1
2°	2884.1	2877.1	2891.2	2884.1	2886.5
3°	2884.1	2870.1	2877.1	2881.8	2879.4
4°	2872.4	2863.0	2870.1	2867.7	2863.0
5°	2849.0	2853.7	2851.3	2853.7	2849.0
6°	2834.9	2839.6	2844.3	2837.3	2830.2
7°	2823.2	2820.9	2823.2	2827.9	2827.9
8°	2802.1	2806.8	2802.1	2804.5	2797.4
9°	2778.7	2778.7	2778.7	2783.4	2776.4
10°	2745.9	2757.6	2750.6	2755.3	2750.6
11°	2729.5	2724.8	2724.8	2727.2	2724.8
12°	2689.7	2694.4	2692.0	2696.7	2703.7
13°	2668.6	2670.9	2661.6	2673.3	2673.3
14°	2635.8	2633.4	2638.1	2635.8	2640.5
15°	2600.6	2596.0	2593.6	2600.6	2607.7
16°	2574.9	2563.2	2556.1	2565.5	2574.9
17°	2537.4	2525.7	2516.3	2535.0	2537.4
18°	2499.9	2495.2	2471.8	2495.2	2506.9
19°	2469.4	2453.0	2432.0	2457.7	2471.8
20°	2429.6	2415.6	2401.5	2415.6	2436.6
22.5°	2314.8	2303.1	2291.4	2307.8	2319.5
25°	2157.8	2164.9	2174.2	2181.3	2178.9
27.5°	1935.3	1998.5	2057.1	2019.6	1970.4
30°	1607.2	1766.6	1911.8	1792.3	1668.2
32.5°	1164.4	1436.2	1738.4	1490.1	1176.1
35°	770.8	1021.5	1532.3	1047.3	798.9
37.5°	501.4	686.5	1279.2	688.8	524.8
40°	328.0	447.5	937.2	456.9	328.0
42.5°	201.5	283.5	569.3	295.2	201.5
45°	117.1	175.7	325.7	178.1	114.8
47.5°	53.9	96.1	185.1	93.7	56.2
50°	16.4	42.2	93.7	42.2	16.4
52.5°	7.0	11.7	44.5	11.7	7.0
55°	4.7	4.7	16.4	4.7	4.7
57.5°	4.7	2.3	4.7	4.7	4.7
60°	2.3	2.3	2.3	2.3	2.3
62.5°	2.3	2.3	2.3	2.3	2.3
65°	2.3	2.3	0.0	2.3	2.3
67.5°	2.3	0.0	0.0	0.0	2.3
70°	0.0	0.0	0.0	0.0	2.3
72.5°	0.0	0.0	0.0	0.0	2.3
75°	0.0	0.0	0.0	0.0	2.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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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77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



(END OF REPORT)