

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: P837262

Luminaire Tested: HCSQ407D010-HM40525930-41SQMW

Issue Date: 5/17/2024

**Test Information**

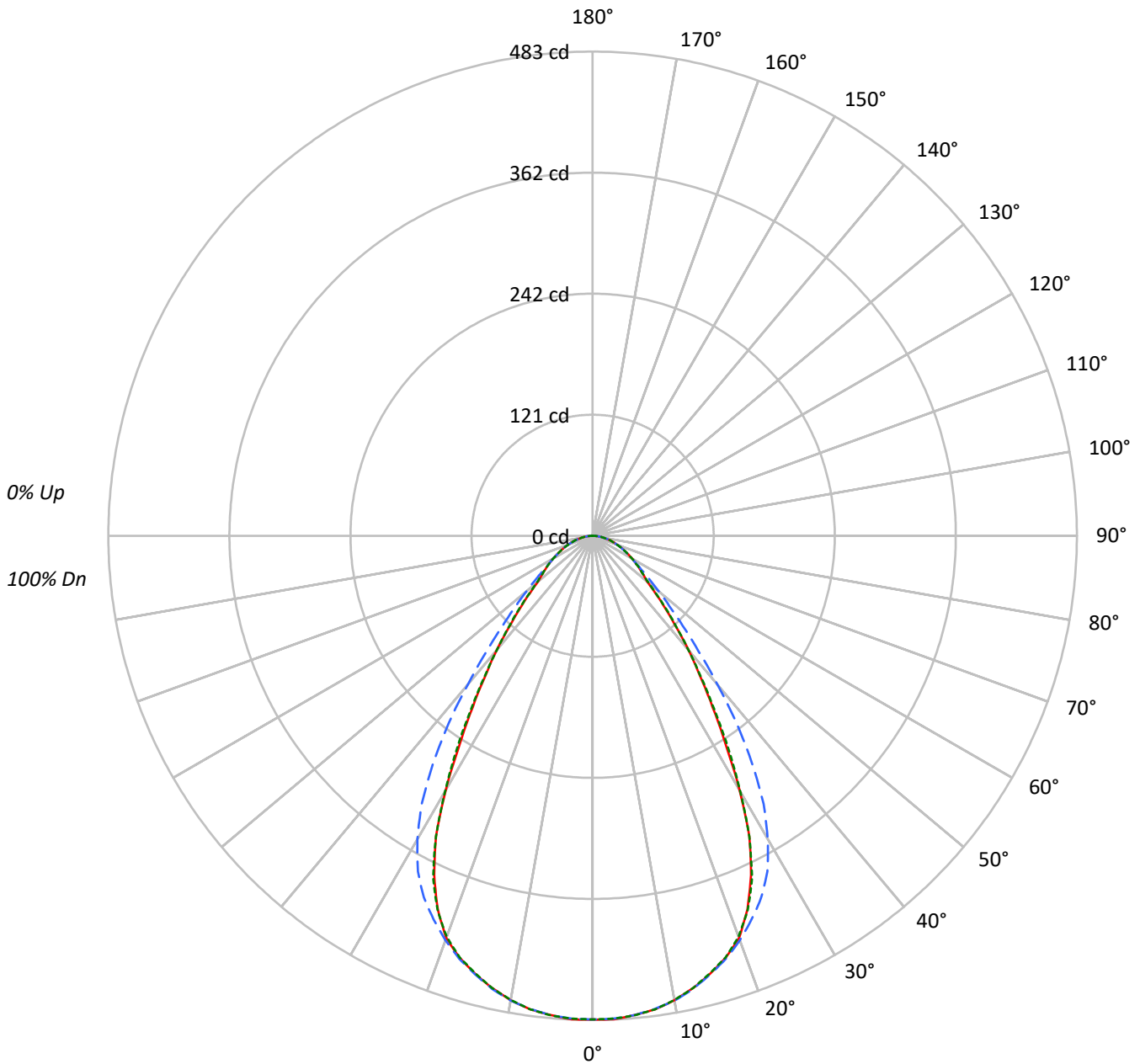
Test Method: LM-79-2019  
Report Number: P837262  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ407D010-HM40525930-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 700.2 lumens  
Efficiency: N/A  
Efficacy: 87.5 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): 8  
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	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°	46742	46742	46742
5°	46668	46668	46697
10°	46283	46322	46244
15°	45383	45423	45312
20°	44021	44258	43866
25°	39956	42553	40233
30°	32798	39085	32921
35°	24646	32806	25001
40°	18780	24458	18729
45°	14015	17358	14276
50°	10685	12946	10912
55°	9627	10134	9627
60°	8796	8719	8719
65°	8000	8000	8000
70°	7421	7336	7336
75°	6887	6737	6887
80°	6248	6081	6248
85°	5446	5446	5446

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 17358 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.5	6.5
10°-20°	127.4	18.2
20°-30°	175.2	25.0
30°-40°	149.1	21.3
40°-50°	90.1	12.9
50°-60°	53.1	7.6
60°-70°	34.8	5.0
70°-80°	19.3	2.8
80°-90°	5.6	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°	348.1	49.7
0°-40°	497.2	71.0
0°-60°	640.4	91.5
0°-90°	700.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	700.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	480	480	480	480	480	46
15°	452	454	453	452	452	127
25°	374	385	398	386	376	169
35°	208	229	277	236	211	132
45°	102	113	127	114	104	80
55°	57	58	60	58	57	51
65°	35	35	35	35	35	35
75°	18	18	18	18	18	19
85°	5	5	5	5	5	6
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	482.5	482.5	482.5	482.5	482.5
2.5°	482.9	481.7	482.1	481.7	482.1
5°	479.9	480.2	479.9	479.5	480.2
7.5°	476.5	476.1	476.1	475.7	476.5
10°	470.5	469.7	470.9	470.1	470.1
12.5°	462.2	463.4	463.0	463.0	462.2
15°	452.5	453.6	452.9	452.5	451.8
17.5°	441.3	442.0	442.4	440.9	440.9
20°	427.0	428.5	429.3	426.6	425.5
22.5°	403.4	410.1	414.3	409.8	404.1
25°	373.8	385.4	398.1	386.1	376.4
27.5°	338.2	354.7	377.5	357.3	338.2
30°	293.2	317.5	349.4	320.2	294.3
32.5°	246.7	272.6	317.2	277.0	251.9
35°	208.4	229.4	277.4	235.8	211.4
37.5°	175.5	193.4	235.8	197.6	177.3
40°	148.5	162.7	193.4	164.6	148.1
42.5°	122.6	136.1	156.7	138.0	124.1
45°	102.3	113.2	126.7	114.3	104.2
47.5°	85.1	94.1	103.8	94.1	86.2
50°	70.9	78.0	85.9	78.0	72.4
52.5°	63.4	65.6	70.9	66.0	63.4
55°	57.0	58.1	60.0	58.1	57.0
57.5°	51.0	51.7	51.4	51.4	51.0
60°	45.4	45.7	45.0	45.4	45.0
62.5°	40.1	40.1	39.4	40.1	39.7
65°	34.9	35.2	34.9	34.9	34.9
67.5°	30.4	30.4	30.0	30.4	30.4
70°	26.2	26.2	25.9	26.2	25.9
72.5°	22.1	22.1	21.7	21.7	21.7
75°	18.4	18.4	18.0	18.0	18.4
77.5°	14.6	14.6	14.2	14.6	14.6
80°	11.2	11.2	10.9	11.2	11.2
82.5°	7.9	7.9	7.9	8.2	8.2
85°	4.9	4.9	4.9	4.9	4.9
87.5°	2.2	2.2	2.2	2.2	2.6
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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(END OF REPORT)