

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: P837321

Luminaire Tested: HCSQ415D010-HM40525830-41SQMB

Issue Date: 5/17/2024



**Test Information**

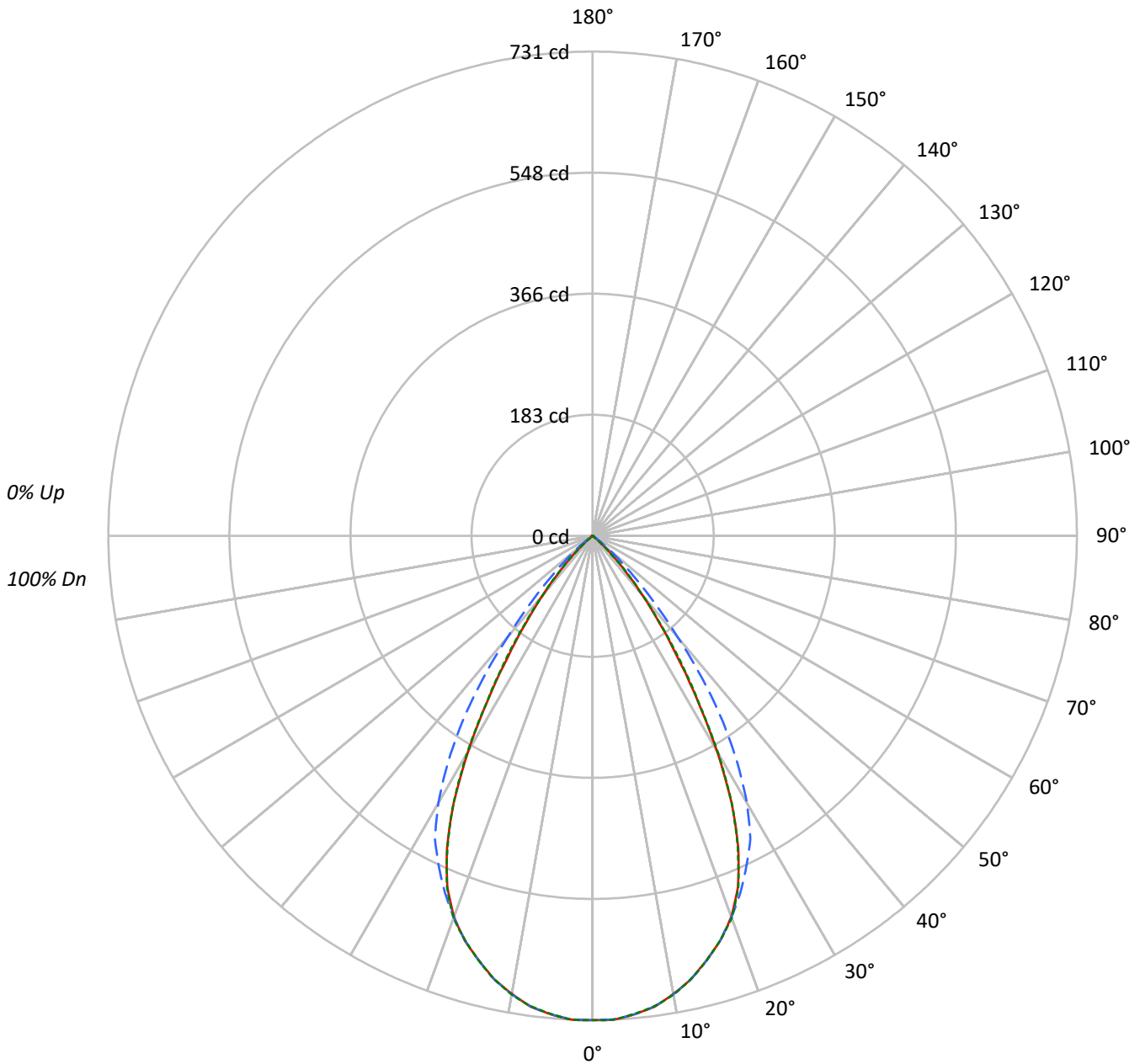
Test Method: LM-79-2019  
Report Number: P837321  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ415D010-HM40525830-41SQMB  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 730.7 lumens  
Efficiency: N/A  
Efficacy: 52.2 lumens/watt  
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 14  
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									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	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93																			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87																			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80																			
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74																			
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69																			
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64																			
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60																			
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56																			
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52																			
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49																			

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

	0°	45°	90°
0°	70855	70855	70855
5°	70532	70532	70464
10°	69075	69144	69213
15°	66544	66614	66614
20°	63093	63165	63299
25°	55626	58747	55401
30°	41971	52061	42351
35°	26314	40517	27201
40°	14847	25229	14847
45°	6234	12728	6138
50°	512	4913	618
55°	236	1030	236
60°	271	136	271
65°	160	160	160
70°	198	198	198
75°	262	262	262
80°	0	391	391
85°	0	778	778

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 12728 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.5	9.4
10°-20°	186.5	25.5
20°-30°	241.9	33.1
30°-40°	172.0	23.5
40°-50°	55.8	7.6
50°-60°	4.0	0.6
60°-70°	0.7	0.1
70°-80°	0.7	0.1
80°-90°	0.5	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°	496.9	68.0
0°-40°	668.9	91.6
0°-60°	728.7	99.7
0°-90°	730.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	730.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	731	731	731	731	731	
5°	725	726	725	725	725	69
15°	664	666	664	666	664	186
25°	520	534	550	537	518	233
35°	222	263	343	266	230	142
45°	46	64	93	66	45	38
55°	1	1	6	1	1	2
65°	1	1	1	1	1	1
75°	1	1	1	1	1	1
85°	0	0	1	1	1	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	731.4	731.4	731.4	731.4	731.4
2.5°	731.4	731.4	730.7	730.7	731.4
5°	725.3	726.0	725.3	725.3	724.6
7.5°	717.1	717.1	716.5	716.5	716.5
10°	702.2	702.9	702.9	702.9	703.6
12.5°	685.9	685.9	685.9	685.9	685.9
15°	663.5	665.6	664.2	665.6	664.2
17.5°	641.1	641.1	640.5	641.8	640.5
20°	612.0	612.0	612.7	614.0	614.0
22.5°	573.3	580.1	582.8	581.4	574.7
25°	520.4	534.0	549.6	536.7	518.3
27.5°	453.9	479.7	515.6	483.7	455.2
30°	375.2	413.9	465.4	415.2	378.6
32.5°	293.8	338.6	407.1	341.9	296.5
35°	222.5	263.2	342.6	266.0	230.0
37.5°	164.2	201.5	272.1	202.9	168.9
40°	117.4	144.5	199.5	147.2	117.4
42.5°	75.3	102.4	140.4	103.1	78.7
45°	45.5	64.5	92.9	65.8	44.8
47.5°	20.4	36.6	57.7	38.0	20.4
50°	3.4	14.9	32.6	15.6	4.1
52.5°	2.0	2.7	15.6	2.7	2.0
55°	1.4	1.4	6.1	1.4	1.4
57.5°	1.4	1.4	1.4	1.4	1.4
60°	1.4	0.7	0.7	0.7	1.4
62.5°	0.7	0.7	0.7	0.7	0.7
65°	0.7	0.7	0.7	0.7	0.7
67.5°	0.7	0.7	0.7	0.7	0.7
70°	0.7	0.7	0.7	0.7	0.7
72.5°	0.7	0.7	0.7	0.7	0.7
75°	0.7	0.7	0.7	0.7	0.7
77.5°	0.7	0.7	0.7	0.7	0.7
80°	0.0	0.7	0.7	0.7	0.7
82.5°	0.0	0.7	0.7	0.7	0.7
85°	0.0	0.0	0.7	0.7	0.7
87.5°	0.0	0.0	0.7	0.7	0.7
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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report







— 0°-180°    - - 45°-225°    - - - - 90°-270°

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(END OF REPORT)