

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: P837205

Luminaire Tested: HCSQ405D010-HM40525835-41SQLWW

Issue Date: 5/17/2024

**Test Information**

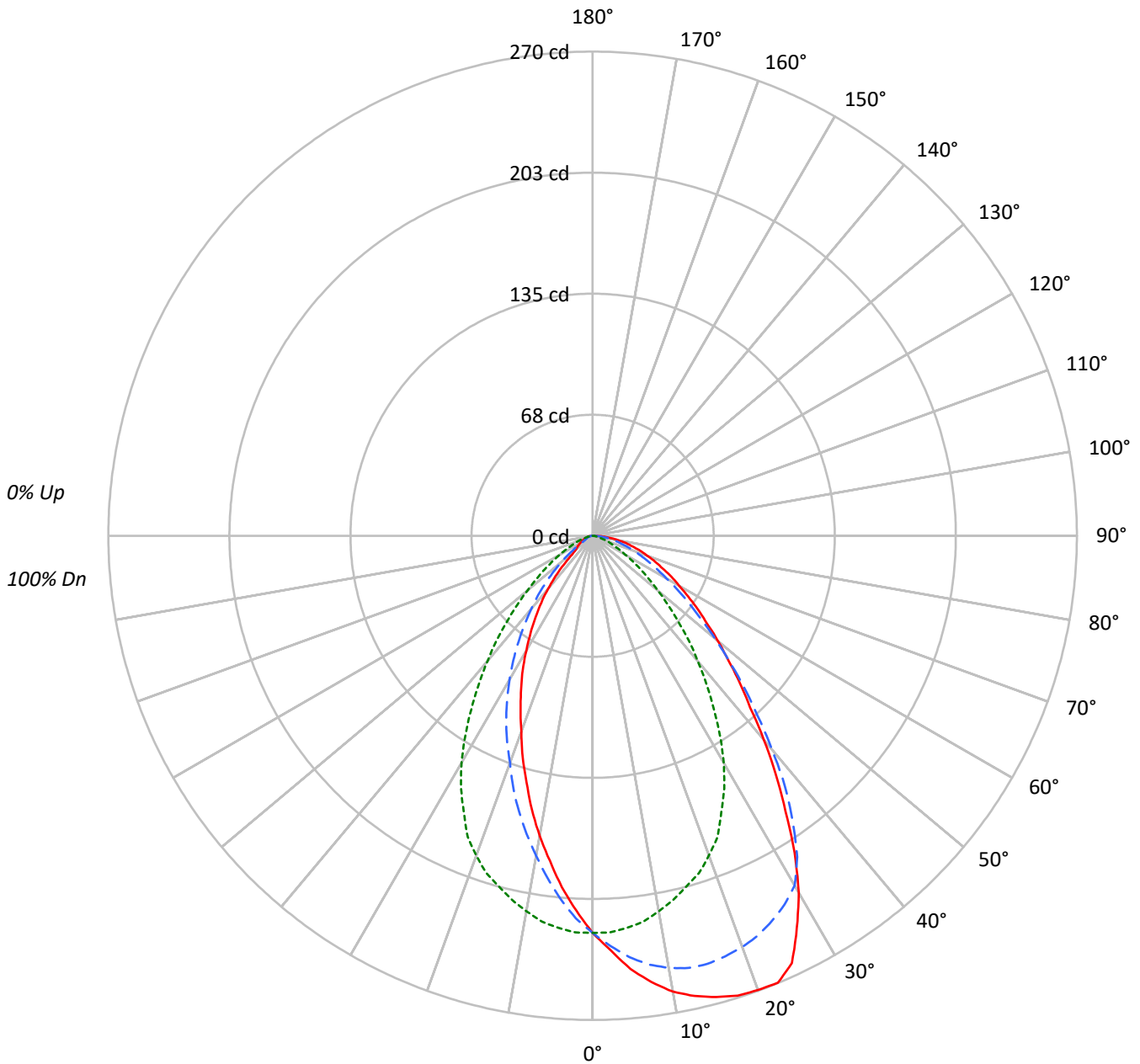
Test Method: LM-79-2019  
Report Number: P837205  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ405D010-HM40525835-41SQLWW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 358.2 lumens  
Efficiency: N/A  
Efficacy: 59.7 lumens/watt  
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 6  
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	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89							
	2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78							
	3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69							
	4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62							
	5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55							
	6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50							
	7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45							
	8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42							
	9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38							
	10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35							

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

	0°	45°	90°	135°	180°
0°	21448	21448	21448	21448	21448
5°	23582	22940	21345	19789	19118
10°	25399	24071	20913	17825	16713
15°	26708	24792	20289	15937	14272
20°	27783	25155	19557	13887	11979
25°	28101	25312	18161	12185	10069
30°	25717	25191	16343	10370	8255
35°	22174	22990	13931	8503	6540
40°	18792	19665	11521	6715	4881
45°	15920	16303	9207	4987	3137
50°	13730	13398	7144	3361	1899
55°	12093	11029	5472	1858	1706
60°	10773	9242	4069	1027	1531
65°	9857	7931	3026	940	1375
70°	9177	6855	2238	878	1331
75°	8571	5989	1535	823	1160
80°	8257	5244	1060	893	1060
85°	8003	4557	667	667	667

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 16564 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	20.8	5.8
10°-20°	57.2	16.0
20°-30°	79.9	22.3
30°-40°	78.1	21.8
40°-50°	56.7	15.8
50°-60°	34.2	9.5
60°-70°	19.2	5.4
70°-80°	9.5	2.7
80°-90°	2.6	0.7
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°	157.9	44.1
0°-40°	236.0	65.9
0°-60°	326.8	91.3
0°-90°	358.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	358.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	221	221	221	221	221	
5°	242	236	220	204	197	24
15°	266	247	202	159	142	75
25°	263	237	170	114	94	119
35°	188	194	118	72	55	117
45°	116	119	67	36	23	90
55°	72	65	32	11	10	64
65°	43	35	13	4	6	43
75°	23	16	4	2	3	25
85°	7	4	1	1	1	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	221.4	221.4	221.4	221.4	221.4	221.4	221.4	221.4	221.4
2.5°	231.5	230.9	229.0	225.2	221.4	217.0	213.6	211.1	209.2
5°	242.5	241.2	235.9	228.0	219.5	211.1	203.5	199.1	196.6
7.5°	251.0	248.8	241.2	230.2	217.0	204.2	192.5	185.6	182.8
10°	258.2	254.4	244.7	229.9	212.6	195.7	181.2	173.1	169.9
12.5°	262.9	258.8	246.9	229.6	207.9	187.2	170.2	159.6	156.4
15°	266.3	261.3	247.2	227.1	202.3	178.4	158.9	146.4	142.3
17.5°	268.9	262.0	245.9	224.3	197.2	169.3	147.3	133.8	129.7
20°	269.5	262.0	244.0	220.2	189.7	160.2	134.7	121.2	116.2
22.5°	269.8	261.0	241.2	215.2	181.9	149.8	124.4	110.2	104.9
25°	262.9	257.9	236.8	206.7	169.9	138.5	114.0	98.6	94.2
27.5°	246.6	246.2	231.8	195.4	158.9	126.3	103.3	88.6	84.5
30°	229.9	230.2	225.2	182.8	146.1	114.6	92.7	78.2	73.8
32.5°	209.5	212.6	212.3	168.7	132.2	103.7	82.3	68.8	64.4
35°	187.5	193.2	194.4	152.6	117.8	91.1	71.9	59.7	55.3
37.5°	167.7	173.4	176.2	138.5	104.3	80.1	62.2	51.5	47.1
40°	148.6	153.3	155.5	122.2	91.1	68.8	53.1	43.0	38.6
42.5°	130.0	136.9	136.3	108.4	79.5	59.7	44.9	34.9	30.5
45°	116.2	120.9	119.0	93.9	67.2	50.3	36.4	27.0	22.9
47.5°	102.4	105.8	103.0	81.7	56.9	41.5	29.5	19.8	15.4
50°	91.1	92.7	88.9	69.4	47.4	33.9	22.3	13.2	12.6
52.5°	80.4	81.3	76.0	59.0	39.3	27.3	16.3	10.4	11.0
55°	71.6	71.3	65.3	49.9	32.4	21.0	11.0	9.4	10.1
57.5°	63.1	62.2	56.2	41.5	26.4	16.3	6.6	8.2	8.8
60°	55.6	54.7	47.7	34.2	21.0	12.2	5.3	7.2	7.9
62.5°	49.6	47.4	40.5	28.3	17.0	8.8	4.7	6.3	6.9
65°	43.0	41.1	34.6	22.9	13.2	6.3	4.1	5.3	6.0
67.5°	37.7	35.5	29.2	18.8	10.7	4.4	3.8	4.7	5.3
70°	32.4	30.5	24.2	15.1	7.9	2.8	3.1	4.1	4.7
72.5°	28.0	25.8	20.1	11.9	6.0	2.2	2.8	3.5	3.8
75°	22.9	21.0	16.0	9.1	4.1	1.9	2.2	2.8	3.1
77.5°	19.2	17.3	12.6	6.9	2.8	1.6	1.9	2.5	2.5
80°	14.8	13.2	9.4	4.7	1.9	0.9	1.6	1.9	1.9
82.5°	10.7	9.4	6.6	3.1	0.9	0.9	0.9	1.3	1.3
85°	7.2	6.3	4.1	1.9	0.6	0.6	0.6	0.6	0.6
87.5°	4.1	3.1	1.9	0.6	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	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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