

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: P838750

Luminaire Tested: HCSQ660D010-HM64560840-61SQH

Issue Date: 5/21/2024

**Test Information**

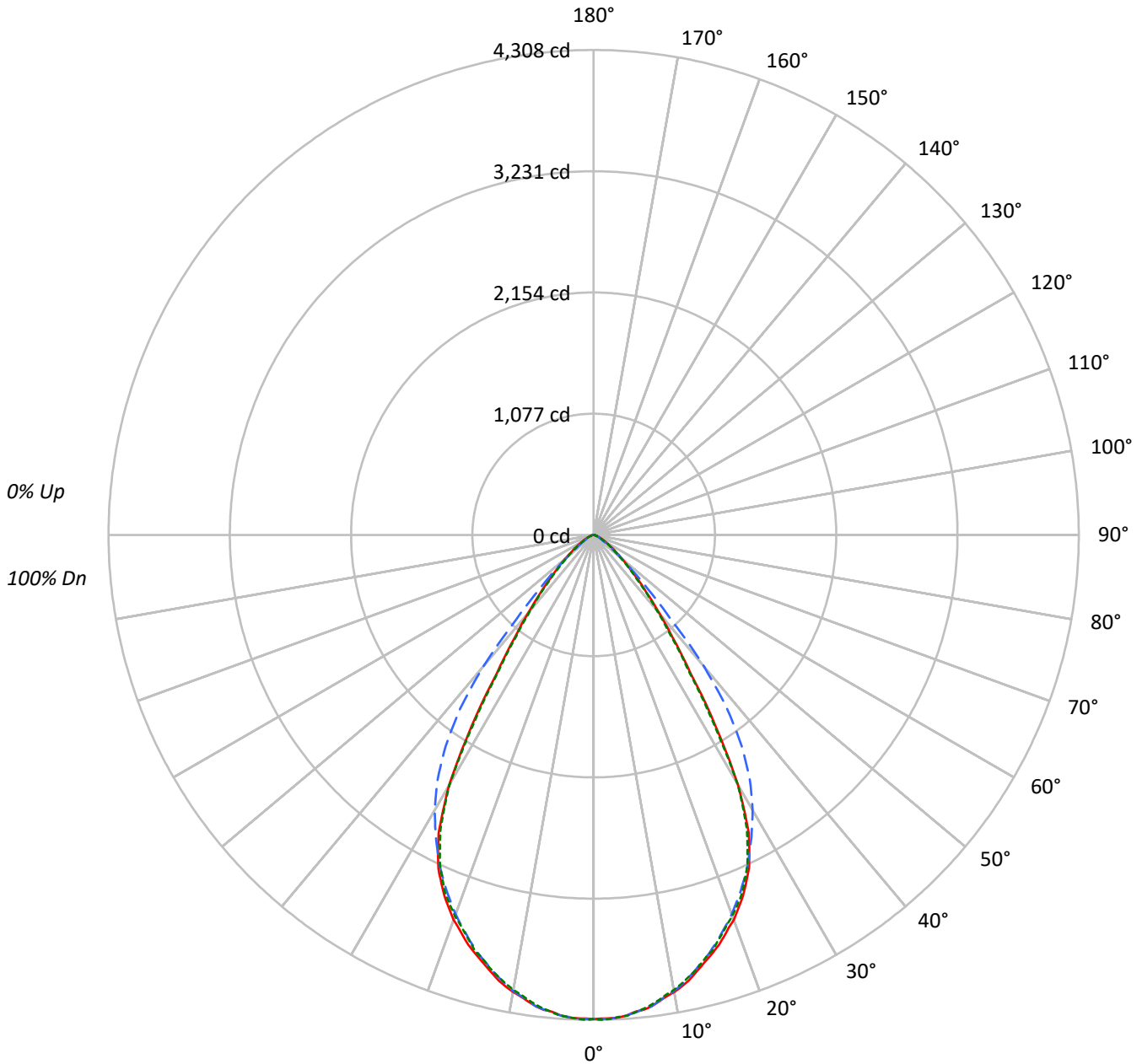
Test Method: LM-79-2019  
Report Number: P838750  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ660D010-HM64560840-61SQH  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4837.5 lumens  
Efficiency: N/A  
Efficacy: 86.4 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): 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									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			100																
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92			92																
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85			85																
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78			78																
4	95	87	81	76	93	86	80	76	83	78	75	81	77	74	79	76	73	71			71																
5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67	66			66																
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61			61																
7	80	70	63	59	78	69	63	59	68	62	58	67	62	58	65	61	58	56			56																
8	76	65	59	54	74	65	59	54	64	58	54	63	57	54	62	57	54	52			52																
9	72	61	55	51	70	61	55	50	60	54	50	59	54	50	58	53	50	48			48																
10	68	58	51	47	67	57	51	47	56	51	47	55	50	47	55	50	47	45			45																

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

	0°	45°	90°
0°	185191	185191	185191
5°	183733	184044	183941
10°	180226	179811	179391
15°	173858	172904	172798
20°	166689	164284	165049
25°	155152	153789	153451
30°	127498	140305	127140
35°	78742	120497	76866
40°	50551	85409	48809
45°	32972	41399	31377
50°	21890	20611	20457
55°	14863	10742	13789
60°	10066	6570	9248
65°	7050	4860	6316
70°	4507	3600	4205
75°	3177	2778	2778
80°	2356	1785	1785
85°	1186	2371	1186

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 41399 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	401.7	8.3
10°-20°	1090.2	22.5
20°-30°	1471.7	30.4
30°-40°	1148.6	23.7
40°-50°	481.2	9.9
50°-60°	163.1	3.4
60°-70°	58.2	1.2
70°-80°	18.9	0.4
80°-90°	3.9	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°	2963.7	61.3
0°-40°	4112.3	85.0
0°-60°	4756.6	98.3
0°-90°	4837.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4837.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4301	4301	4301	4301	4301	
5°	4251	4256	4258	4251	4256	402
15°	3900	3891	3879	3874	3877	1097
25°	3266	3252	3237	3237	3230	1469
35°	1498	1758	2292	1756	1462	985
45°	542	580	680	554	515	435
55°	198	181	143	172	184	183
65°	69	57	48	55	62	71
75°	19	17	17	17	17	21
85°	2	2	5	2	2	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4301.2	4301.2	4301.2	4301.2	4301.2
1°	4296.4	4303.6	4298.8	4301.2	4308.4
2°	4296.4	4296.4	4301.2	4298.8	4301.2
3°	4291.7	4291.7	4286.9	4286.9	4286.9
4°	4277.4	4277.4	4277.4	4272.6	4282.1
5°	4251.1	4255.9	4258.3	4251.1	4255.9
6°	4241.6	4244.0	4239.2	4236.8	4232.0
7°	4220.1	4212.9	4220.1	4203.4	4205.8
8°	4184.3	4184.3	4179.5	4174.8	4170.0
9°	4150.9	4150.9	4146.1	4139.0	4134.2
10°	4122.3	4115.1	4112.8	4105.6	4103.2
11°	4088.9	4074.6	4072.2	4065.0	4065.0
12°	4048.3	4041.2	4024.5	4022.1	4022.1
13°	3998.2	3991.1	3979.2	3969.6	3979.2
14°	3950.5	3945.8	3924.3	3931.4	3929.1
15°	3900.4	3890.9	3879.0	3874.2	3876.6
16°	3855.1	3838.4	3821.7	3824.1	3838.4
17°	3807.4	3783.5	3766.8	3764.5	3771.6
18°	3747.8	3728.7	3702.4	3712.0	3712.0
19°	3688.1	3661.9	3645.2	3642.8	3652.3
20°	3638.0	3597.5	3585.5	3583.2	3602.2
22.5°	3466.3	3425.7	3416.2	3425.7	3444.8
25°	3265.9	3251.6	3237.2	3237.2	3230.1
27.5°	2982.0	3015.4	3032.1	2998.7	2943.8
30°	2564.5	2705.3	2822.1	2688.6	2557.3
32.5°	2020.6	2311.6	2581.2	2304.5	1972.9
35°	1498.1	1758.2	2292.5	1755.8	1462.4
37.5°	1154.6	1321.6	1949.0	1300.1	1121.2
40°	899.4	997.2	1519.6	985.2	868.4
42.5°	699.0	761.0	1011.5	746.7	675.1
45°	541.5	579.7	679.9	553.5	515.3
47.5°	422.2	438.9	465.2	419.9	398.4
50°	326.8	326.8	307.7	314.9	305.4
52.5°	252.9	243.3	207.5	229.0	233.8
55°	198.0	181.3	143.1	171.8	183.7
57.5°	150.3	133.6	102.6	126.4	138.4
60°	116.9	100.2	76.3	95.4	107.4
62.5°	90.7	76.3	59.6	71.6	81.1
65°	69.2	57.3	47.7	54.9	62.0
67.5°	52.5	42.9	35.8	40.6	47.7
70°	35.8	33.4	28.6	31.0	33.4
72.5°	26.2	23.9	21.5	21.5	23.9
75°	19.1	16.7	16.7	16.7	16.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
82.5°	4.8	4.8	4.8	4.8	4.8
85°	2.4	2.4	4.8	2.4	2.4
87.5°	2.4	2.4	2.4	2.4	2.4
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°	11.9	11.9	11.9	11.9	11.9
80°	9.5	9.5	7.2	7.2	7.2

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Scaled Data Report



(END OF REPORT)