

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: P838577

Luminaire Tested: HCSQ640D010-HM63040827-61SQMB

Issue Date: 5/21/2024

**Test Information**

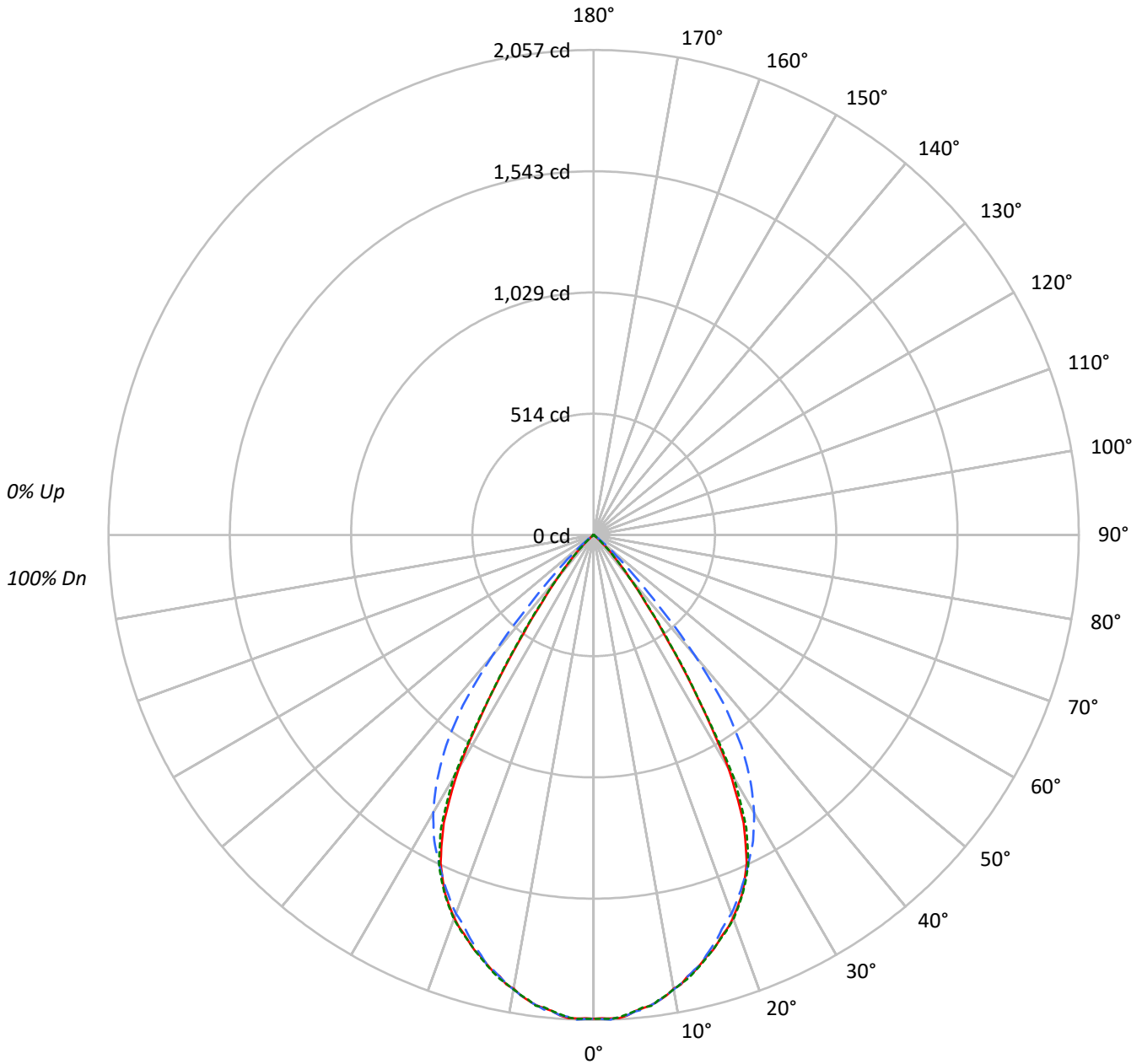
Test Method: LM-79-2019  
Report Number: P838577  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ640D010-HM63040827-61SQMB  
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2040.2 lumens  
Efficiency: N/A  
Efficacy: 49.8 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): 41  
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	100	100	100	100	100		
	1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	93	93	93	93	93	93		
	2	108	103	99	96	106	101	98	94	98	95	92	95	93	90	92	90	89	87	87	87	87	87	87		
	3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	85	82	81	81	81	81	81	81		
	4	97	89	84	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75	75	75	75	75	75		
	5	92	84	78	73	90	83	77	73	81	76	72	79	75	72	78	74	71	70	70	70	70	70	70		
	6	87	78	72	68	86	77	72	68	76	71	67	75	70	67	73	69	66	65	65	65	65	65	65		
	7	83	73	67	63	81	73	67	63	71	66	63	70	66	62	69	65	62	60	60	60	60	60	60		
	8	79	69	63	59	77	68	63	59	67	62	58	66	62	58	65	61	58	56	56	56	56	56	56		
	9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53	53	53	53	53	53		
	10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50	50	50	50	50	50		

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

	0°	45°	90°
0°	88363	88363	88363
5°	87620	87694	87620
10°	85429	85573	85573
15°	82490	82267	82712
20°	79216	78300	79445
25°	72946	73502	73659
30°	56861	67634	59018
35°	28830	57313	29881
40°	13118	37483	13118
45°	5078	14108	4975
50°	784	4468	784
55°	248	878	248
60°	146	146	146
65°	173	0	173
70°	0	0	214
75°	0	0	283
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 14108 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.6	9.4
10°-20°	519.7	25.5
20°-30°	700.6	34.3
30°-40°	492.6	24.1
40°-50°	125.8	6.2
50°-60°	8.7	0.4
60°-70°	1.1	0.1
70°-80°	0.1	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°	1411.9	69.2
0°-40°	1904.5	93.4
0°-60°	2038.9	99.9
0°-90°	2040.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2040.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2052	2052	2052	2052	2052	
5°	2027	2031	2029	2031	2027	192
15°	1851	1847	1846	1851	1856	521
25°	1536	1540	1547	1552	1550	686
35°	548	727	1090	745	568	369
45°	83	125	232	127	82	73
55°	3	3	12	3	3	4
65°	2	2	0	2	2	1
75°	0	0	0	0	2	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2052.3	2052.3	2052.3	2052.3	2052.3
1°	2050.7	2052.3	2054.0	2054.0	2052.3
2°	2052.3	2047.3	2057.3	2052.3	2054.0
3°	2052.3	2042.3	2047.3	2050.7	2049.0
4°	2044.0	2037.3	2042.3	2040.7	2037.3
5°	2027.3	2030.7	2029.0	2030.7	2027.3
6°	2017.3	2020.7	2024.0	2019.0	2014.0
7°	2009.0	2007.3	2009.0	2012.3	2012.3
8°	1994.0	1997.3	1994.0	1995.7	1990.7
9°	1977.3	1977.3	1977.3	1980.6	1975.6
10°	1954.0	1962.3	1957.3	1960.6	1957.3
11°	1942.3	1939.0	1939.0	1940.6	1939.0
12°	1914.0	1917.3	1915.6	1919.0	1924.0
13°	1899.0	1900.6	1894.0	1902.3	1902.3
14°	1875.6	1873.9	1877.3	1875.6	1878.9
15°	1850.6	1847.3	1845.6	1850.6	1855.6
16°	1832.3	1823.9	1818.9	1825.6	1832.3
17°	1805.6	1797.3	1790.6	1803.9	1805.6
18°	1778.9	1775.6	1758.9	1775.6	1783.9
19°	1757.2	1745.6	1730.6	1748.9	1758.9
20°	1728.9	1718.9	1708.9	1718.9	1733.9
22.5°	1647.2	1638.9	1630.5	1642.2	1650.5
25°	1535.5	1540.5	1547.2	1552.2	1550.5
27.5°	1377.1	1422.1	1463.8	1437.1	1402.1
30°	1143.7	1257.1	1360.4	1275.4	1187.1
32.5°	828.6	1022.0	1237.1	1060.3	836.9
35°	548.5	726.9	1090.4	745.2	568.5
37.5°	356.8	488.5	910.3	490.2	373.5
40°	233.4	318.4	666.9	325.1	233.4
42.5°	143.4	201.7	405.1	210.1	143.4
45°	83.4	125.0	231.7	126.7	81.7
47.5°	38.3	68.4	131.7	66.7	40.0
50°	11.7	30.0	66.7	30.0	11.7
52.5°	5.0	8.3	31.7	8.3	5.0
55°	3.3	3.3	11.7	3.3	3.3
57.5°	3.3	1.7	3.3	3.3	3.3
60°	1.7	1.7	1.7	1.7	1.7
62.5°	1.7	1.7	1.7	1.7	1.7
65°	1.7	1.7	0.0	1.7	1.7
67.5°	1.7	0.0	0.0	0.0	1.7
70°	0.0	0.0	0.0	0.0	1.7
72.5°	0.0	0.0	0.0	0.0	1.7
75°	0.0	0.0	0.0	0.0	1.7



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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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(END OF REPORT)