

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P582638

Luminaire Tested: **HC645D010-HM64560927-61RWWC**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P582638  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC645D010-HM64560927-61RWWC  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3780.2 lumens  
Efficiency: N/A  
Efficacy: 85.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.15 / 1.2  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

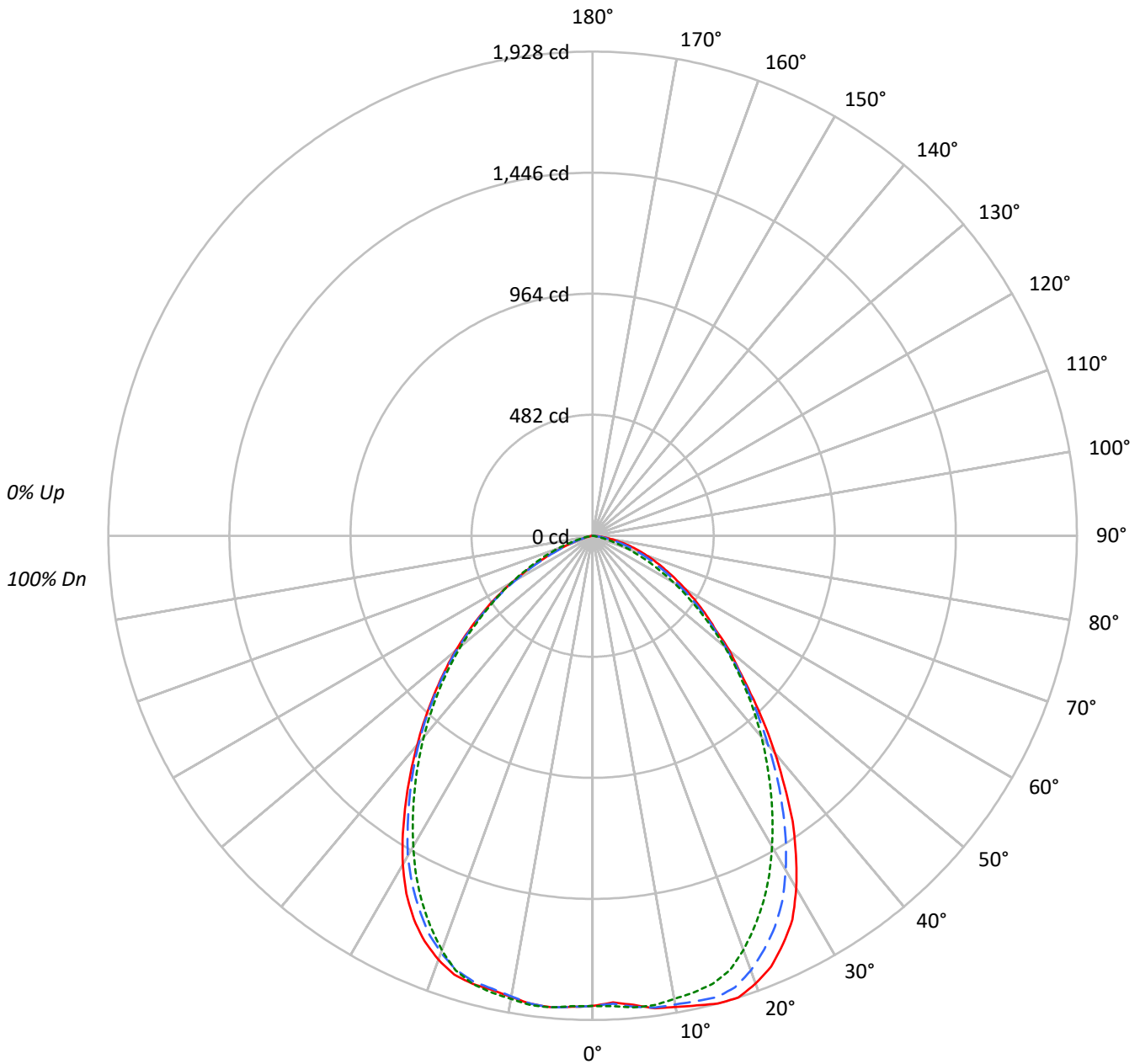
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	88			88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			77
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	69	68			68
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	61	60			60
5	82	70	62	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			53
6	76	64	56	50	74	63	56	50	62	55	50	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

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

	0°	90°	180°
0°	102651	102651	102651
5°	103175	103736	103736
10°	106066	104234	103806
15°	109439	104830	104830
20°	110715	102425	104793
25°	108502	97294	101903
30°	102623	90425	95717
35°	92883	82690	86766
40°	80794	74804	77717
45°	69038	66689	69038
50°	60586	58420	60800
55°	52863	49231	51171
60°	46740	40896	40337
65°	41457	32260	27642
70°	36609	22776	16669
75°	31178	12899	8049
80°	23204	4009	2399
85°	12769	1635	1635



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.6	4.8
10°-20°	525.5	13.9
20°-30°	767.5	20.3
30°-40°	804.9	21.3
40°-50°	678.1	17.9
50°-60°	475.1	12.6
60°-70°	254.7	6.7
70°-80°	85.4	2.3
80°-90°	9.3	0.2
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°	1472.6	39.0
0°-40°	2277.5	60.2
0°-60°	3430.8	90.8
0°-90°	3780.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3780.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1872	1872	1872	1872	1872	
5°	1875	1882	1885	1885	1885	180
15°	1928	1903	1847	1837	1847	544
25°	1794	1718	1608	1636	1685	822
35°	1388	1317	1236	1271	1296	861
45°	890	875	860	883	890	694
55°	553	535	515	525	535	498
65°	320	292	249	206	213	319
75°	147	114	61	38	38	156
85°	20	10	3	3	3	28
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°	1872.5	1872.5	1872.5	1872.5	1872.5	1872.5	1872.5	1872.5	1872.5
2.5°	1859.8	1859.8	1864.8	1869.9	1874.9	1874.9	1877.5	1880.1	1877.5
5°	1874.9	1874.9	1882.5	1885.1	1885.1	1882.5	1885.1	1885.1	1885.1
7.5°	1897.8	1892.8	1895.2	1890.2	1885.1	1882.5	1880.1	1880.1	1880.1
10°	1905.4	1900.4	1895.2	1885.1	1872.5	1864.8	1862.3	1864.8	1864.8
12.5°	1915.6	1910.5	1897.8	1877.5	1862.3	1849.6	1847.1	1852.2	1852.2
15°	1928.3	1923.1	1902.8	1869.9	1847.1	1834.3	1836.9	1842.0	1847.1
17.5°	1928.3	1918.1	1885.1	1842.0	1814.0	1801.4	1811.6	1824.2	1831.9
20°	1897.8	1887.7	1842.0	1788.7	1755.7	1748.1	1765.8	1788.7	1796.3
22.5°	1857.2	1836.9	1783.7	1720.2	1684.7	1684.7	1710.1	1737.9	1748.1
25°	1793.8	1778.6	1717.6	1644.1	1608.5	1606.1	1636.5	1674.6	1684.7
27.5°	1722.8	1702.5	1636.5	1560.3	1522.3	1524.9	1557.9	1595.9	1606.1
30°	1621.2	1595.9	1537.6	1463.9	1428.5	1438.6	1471.5	1499.4	1512.1
32.5°	1507.1	1484.2	1430.9	1362.4	1332.1	1342.1	1370.1	1395.4	1405.6
35°	1387.9	1362.4	1316.8	1255.9	1235.6	1245.7	1271.2	1291.5	1296.5
37.5°	1253.4	1235.6	1202.7	1154.5	1139.2	1151.9	1172.2	1184.8	1189.9
40°	1129.0	1113.8	1086.0	1050.4	1045.3	1055.5	1075.8	1083.4	1086.0
42.5°	1007.3	994.6	976.8	951.4	951.4	961.6	979.3	984.4	987.0
45°	890.5	882.9	875.3	855.0	860.2	872.8	882.9	890.5	890.5
47.5°	789.1	791.7	781.5	766.2	771.2	784.0	791.7	799.2	799.2
50°	710.4	702.7	692.7	677.4	685.0	695.2	705.3	710.4	712.9
52.5°	619.1	616.5	608.9	591.2	596.2	601.3	611.5	619.1	621.6
55°	553.1	545.4	535.4	515.1	515.1	520.1	525.2	530.3	535.4
57.5°	489.7	482.1	466.9	444.0	441.5	441.5	438.9	444.0	451.6
60°	426.3	423.7	400.9	380.5	373.0	365.4	355.2	357.8	367.9
62.5°	370.4	365.4	345.1	319.6	304.5	291.7	279.1	276.6	286.7
65°	319.6	314.6	291.7	266.4	248.7	225.8	205.5	205.5	213.1
67.5°	274.0	263.9	243.5	215.7	192.8	164.9	144.6	149.7	152.3
70°	228.4	220.8	197.9	170.0	142.1	114.1	101.5	104.0	104.0
72.5°	187.8	177.6	154.7	126.8	99.0	73.5	68.5	65.9	65.9
75°	147.2	137.0	114.1	86.2	60.9	43.2	38.0	38.0	38.0
77.5°	106.5	99.0	78.7	53.3	33.0	20.3	17.7	15.2	15.2
80°	73.5	65.9	48.2	27.9	12.7	7.6	7.6	7.6	7.6
82.5°	43.2	35.5	22.9	12.7	5.0	2.6	2.6	2.6	2.6
85°	20.3	15.2	10.2	5.0	2.6	2.6	2.6	2.6	2.6
87.5°	2.6	2.6	2.6	0.0	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



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







(END OF REPORT)