

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: P580829

Luminaire Tested: **HC445D010-HM44560940-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580829  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC445D010-HM44560940-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3934.9 lumens  
Efficiency: N/A  
Efficacy: 89.4 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

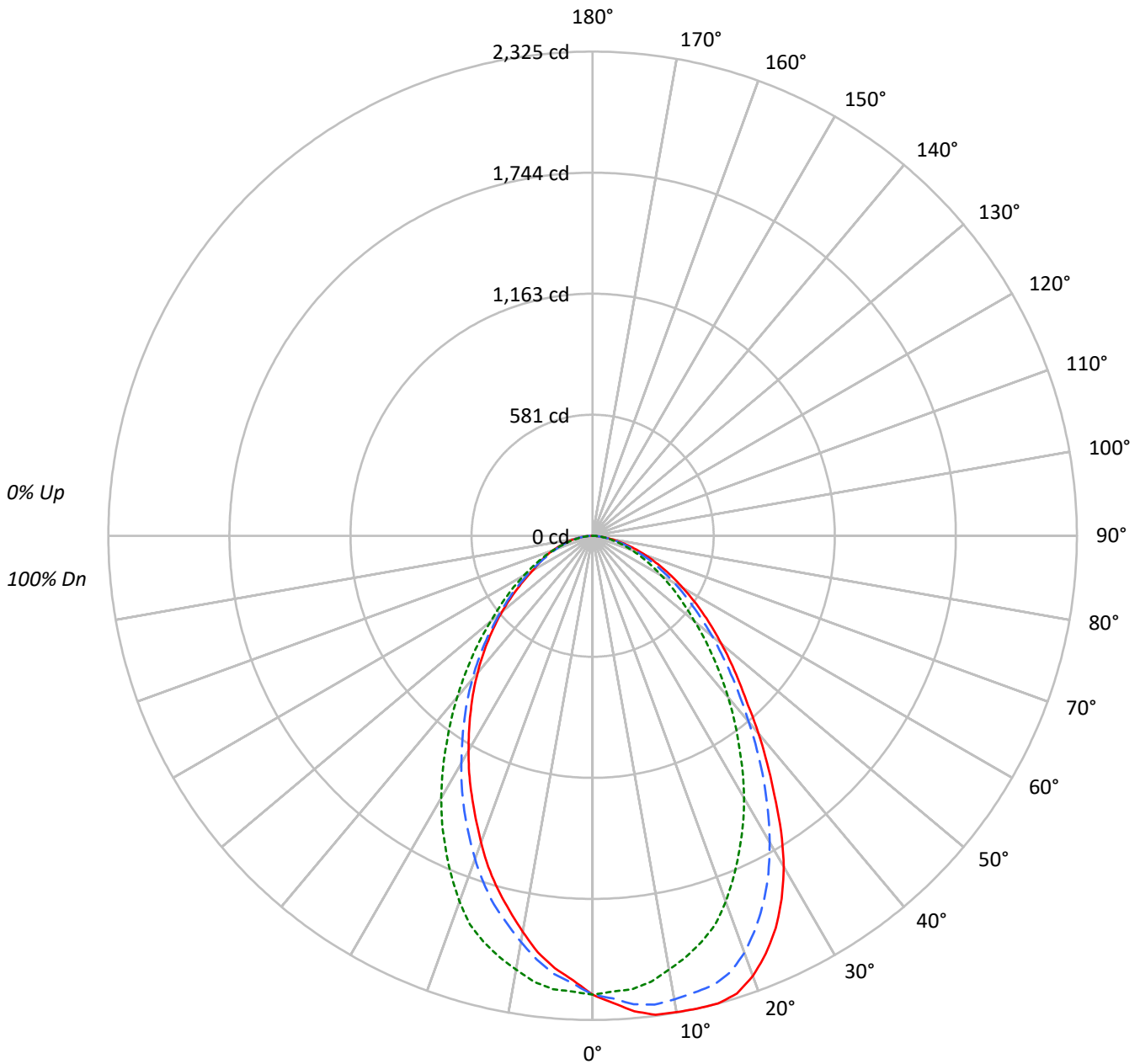
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66																			
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47																			
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	271792	271792	271792
5°	283739	270577	258059
10°	290915	264938	241892
15°	296933	257871	224440
20°	295365	245328	205530
25°	282959	226846	186983
30°	261411	207118	169474
35°	229133	184231	153408
40°	199515	162787	138168
45°	173635	141992	123432
50°	154703	122369	108937
55°	138253	107588	94212
60°	123420	93989	81211
65°	109710	82451	77197
70°	96290	71046	71983
75°	81541	60525	66720
80°	62650	51569	60732
85°	36655	40334	51231



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.5	5.2
10°-20°	569.7	14.5
20°-30°	778.4	19.8
30°-40°	781.6	19.9
40°-50°	646.6	16.4
50°-60°	468.6	11.9
60°-70°	296.8	7.5
70°-80°	150.0	3.8
80°-90°	36.7	0.9
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°	1554.6	39.5
0°-40°	2336.2	59.4
0°-60°	3451.4	87.7
0°-90°	3934.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3934.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2204	2204	2204	2204	2204	
5°	2292	2258	2185	2113	2084	220
15°	2325	2235	2019	1833	1758	654
25°	2079	1942	1667	1457	1374	950
35°	1522	1431	1224	1073	1019	954
45°	995	938	814	734	708	774
55°	643	586	500	456	438	578
65°	376	334	282	254	264	374
75°	171	148	127	132	140	183
85°	26	26	28	34	36	36
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°	2203.5	2203.5	2203.5	2203.5	2203.5	2203.5	2203.5	2203.5	2203.5
2.5°	2244.9	2237.2	2224.1	2208.7	2190.5	2169.7	2151.7	2141.2	2136.1
5°	2291.6	2281.3	2257.9	2224.1	2185.3	2146.4	2112.7	2092.0	2084.2
7.5°	2320.1	2304.6	2270.8	2219.0	2159.4	2102.4	2053.1	2024.5	2016.8
10°	2322.7	2304.6	2260.5	2190.5	2115.3	2040.1	1980.6	1939.0	1931.3
12.5°	2325.3	2302.0	2247.5	2164.6	2071.2	1978.0	1905.4	1856.1	1843.1
15°	2325.3	2302.0	2234.6	2136.1	2019.4	1913.1	1832.8	1775.7	1757.6
17.5°	2304.6	2278.7	2198.2	2084.2	1957.2	1837.9	1744.6	1685.0	1666.8
20°	2250.2	2221.6	2130.9	2006.5	1869.0	1744.6	1651.2	1589.1	1565.8
22.5°	2172.3	2138.6	2042.7	1908.0	1770.5	1643.5	1552.7	1488.0	1467.2
25°	2079.1	2045.3	1941.6	1809.4	1666.8	1547.6	1456.9	1397.2	1373.9
27.5°	1965.0	1928.7	1827.6	1695.3	1563.2	1443.9	1361.0	1306.6	1283.2
30°	1835.4	1796.4	1700.5	1573.5	1454.2	1340.2	1259.9	1215.8	1189.9
32.5°	1685.0	1651.2	1565.8	1451.6	1340.2	1231.4	1164.0	1125.0	1104.3
35°	1521.7	1503.5	1431.0	1332.5	1223.5	1132.9	1073.2	1037.0	1018.8
37.5°	1376.5	1358.4	1296.1	1213.2	1117.3	1034.4	985.1	953.9	938.4
40°	1239.1	1223.5	1164.0	1094.0	1011.0	938.4	896.9	873.6	858.1
42.5°	1104.3	1096.5	1047.3	982.5	909.9	847.7	814.0	795.8	782.8
45°	995.4	985.1	938.4	876.2	814.0	762.2	733.7	720.7	707.6
47.5°	899.5	886.6	837.3	782.8	725.8	679.1	653.2	640.3	635.2
50°	806.2	793.3	749.2	694.7	637.7	604.0	583.2	570.3	567.7
52.5°	723.2	710.3	661.1	609.2	565.2	536.7	518.5	505.5	500.3
55°	642.9	627.3	585.9	536.7	500.3	474.4	456.2	443.3	438.1
57.5°	570.3	554.7	518.5	471.8	438.1	414.8	399.2	386.3	381.0
60°	500.3	487.4	453.6	409.5	381.0	360.3	344.8	334.4	329.2
62.5°	435.6	425.1	391.5	352.5	329.2	311.1	298.1	287.8	293.0
65°	375.9	365.5	334.4	300.7	282.5	264.5	254.0	254.0	264.5
67.5°	318.9	308.4	282.5	254.0	238.5	225.5	217.8	225.5	233.3
70°	267.0	256.6	233.3	209.9	197.0	186.7	186.7	194.4	199.6
72.5°	217.8	207.3	189.3	171.1	160.7	152.9	160.7	165.9	171.1
75°	171.1	163.4	147.8	134.8	127.0	124.4	132.2	137.4	140.0
77.5°	127.0	121.8	111.4	101.1	95.9	98.5	106.3	108.8	111.4
80°	88.2	85.5	77.8	72.6	72.6	75.2	80.3	82.9	85.5
82.5°	54.4	54.4	49.3	46.7	49.3	54.4	57.0	59.6	59.6
85°	25.9	28.5	25.9	25.9	28.5	33.7	33.7	36.2	36.2
87.5°	7.7	7.7	10.3	10.3	13.0	13.0	13.0	13.0	15.6
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)