

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: P592871

Luminaire Tested: **HC445D010-HM44560950-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592871  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC445D010-HM44560950-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3916.8 lumens  
Efficiency: N/A  
Efficacy: 89.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

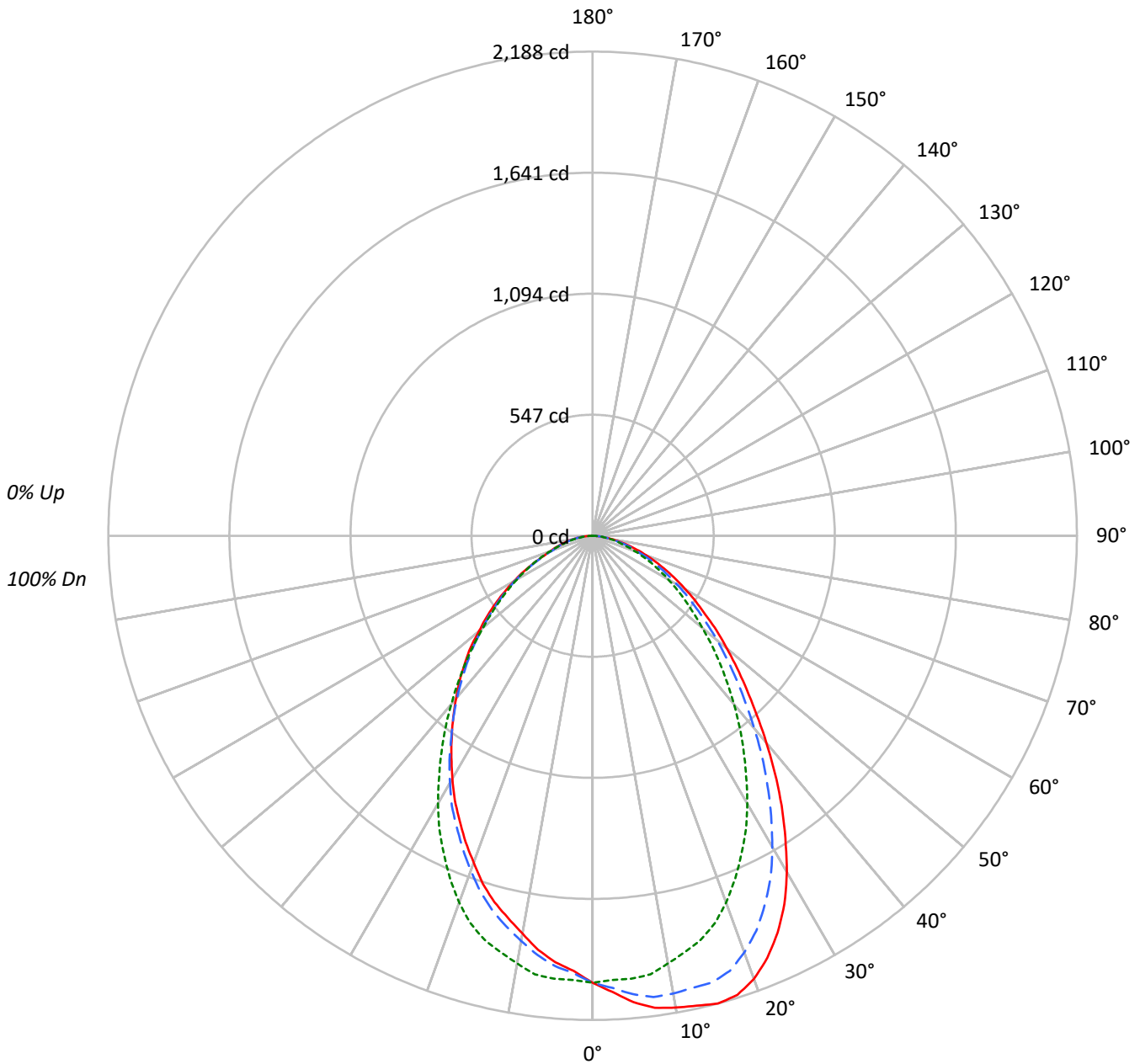
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87								
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75								
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66								
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58								
5	81	69	61	55	79	68	60	55	66	59	54	64	58	53	62	57	53	51								
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46								
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41								
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37								
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34								
10	58	45	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31								

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

	0°	90°	180°
0°	249109	249109	249109
5°	261934	248785	239474
10°	271138	245813	228603
15°	279413	241347	218834
20°	279732	231414	206225
25°	269227	216299	193366
30°	249974	199042	180555
35°	224074	179187	167096
40°	196617	159889	154463
45°	171855	141538	142463
50°	151748	123885	128356
55°	133823	109824	115415
60°	119596	97196	101045
65°	105945	85515	85515
70°	92576	72921	72921
75°	79063	61764	69198
80°	62650	55263	62650
85°	40334	47693	58732



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.4	4.9
10°-20°	538.9	13.8
20°-30°	754.9	19.3
30°-40°	777.8	19.9
40°-50°	662.2	16.9
50°-60°	490.6	12.5
60°-70°	307.9	7.9
70°-80°	153.0	3.9
80°-90°	40.1	1.0
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°	1485.1	37.9
0°-40°	2262.9	57.8
0°-60°	3415.7	87.2
0°-90°	3916.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3916.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2020	2020	2020	2020	2020	
5°	2116	2079	2009	1952	1934	203
15°	2188	2090	1890	1753	1714	615
25°	1978	1841	1589	1452	1421	905
35°	1488	1377	1190	1112	1110	928
45°	985	918	811	796	817	764
55°	622	573	511	521	537	563
65°	363	327	293	288	293	362
75°	166	148	130	140	145	177
85°	28	28	34	39	42	37
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°	2019.6	2019.6	2019.6	2019.6	2019.6	2019.6	2019.6	2019.6	2019.6
2.5°	2063.7	2056.0	2045.5	2027.5	2009.3	1993.7	1978.2	1970.3	1967.8
5°	2115.5	2100.0	2079.3	2045.5	2009.3	1978.2	1952.3	1939.3	1934.1
7.5°	2151.9	2136.3	2102.6	2050.8	1999.0	1952.3	1910.8	1892.6	1887.4
10°	2164.8	2146.7	2100.0	2030.0	1962.6	1905.6	1858.9	1835.6	1825.2
12.5°	2175.2	2151.9	2092.2	2009.3	1926.4	1856.3	1807.1	1775.9	1768.2
15°	2188.1	2162.2	2089.6	1988.5	1890.0	1807.1	1752.6	1724.1	1713.7
17.5°	2175.2	2146.7	2061.1	1947.0	1835.6	1744.8	1685.2	1659.2	1648.9
20°	2131.1	2100.0	2004.1	1882.3	1763.0	1669.6	1610.0	1584.0	1571.1
22.5°	2063.7	2030.0	1931.5	1801.8	1680.0	1589.3	1532.2	1506.3	1498.5
25°	1978.2	1944.4	1840.8	1708.6	1589.3	1501.1	1451.9	1428.5	1420.8
27.5°	1877.0	1843.3	1742.2	1612.7	1498.5	1415.5	1376.7	1353.4	1348.2
30°	1755.1	1721.5	1623.0	1503.7	1397.5	1319.6	1288.5	1270.3	1267.7
32.5°	1620.4	1591.9	1501.1	1392.2	1291.1	1226.3	1203.0	1190.0	1187.4
35°	1488.1	1457.0	1376.7	1278.2	1190.0	1133.0	1112.2	1109.7	1109.7
37.5°	1353.4	1322.3	1257.4	1166.7	1091.5	1039.6	1031.9	1034.5	1034.5
40°	1221.1	1192.6	1135.6	1060.4	993.0	954.0	951.5	956.6	959.3
42.5°	1096.6	1073.3	1021.5	956.6	899.6	868.5	871.1	881.4	889.3
45°	985.2	964.5	917.8	860.8	811.4	788.2	795.9	808.8	816.7
47.5°	884.0	866.0	821.9	770.0	728.5	712.9	723.4	738.8	749.3
50°	790.8	775.2	733.7	679.3	645.6	635.2	648.2	663.7	668.9
52.5°	707.8	692.3	648.2	601.5	575.6	570.4	583.3	596.3	604.1
55°	622.3	609.2	573.0	531.5	510.7	508.2	521.2	531.5	536.7
57.5°	552.2	539.2	505.6	469.2	451.2	448.6	461.5	469.2	471.8
60°	484.8	471.8	440.7	407.1	394.0	394.0	401.9	407.1	409.6
62.5°	422.5	409.6	381.1	352.6	342.2	342.2	342.2	344.8	352.6
65°	363.0	352.6	326.6	300.7	293.0	287.8	287.8	287.8	293.0
67.5°	308.6	298.1	277.4	254.0	246.3	238.5	236.0	241.1	241.1
70°	256.7	248.9	228.1	210.0	202.2	194.4	191.9	202.2	202.2
72.5°	210.0	202.2	189.3	171.1	163.4	160.8	165.9	171.1	173.7
75°	165.9	158.2	147.8	137.4	129.6	132.2	140.0	142.6	145.2
77.5°	124.4	121.8	111.5	103.7	103.7	106.3	111.5	116.7	119.3
80°	88.2	85.6	80.3	75.2	77.8	82.9	85.6	90.8	88.2
82.5°	54.4	54.4	51.8	51.8	54.4	59.6	62.3	64.9	67.4
85°	28.5	28.5	28.5	31.1	33.7	36.2	38.9	41.5	41.5
87.5°	7.7	10.3	10.3	13.0	15.6	15.6	18.2	18.2	18.2
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)