

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: P592888

Luminaire Tested: **HC450D010-HM44560850-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P592888
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: HC450D010-HM44560850-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5441.4 lumens
Efficiency: N/A
Efficacy: 113.4 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

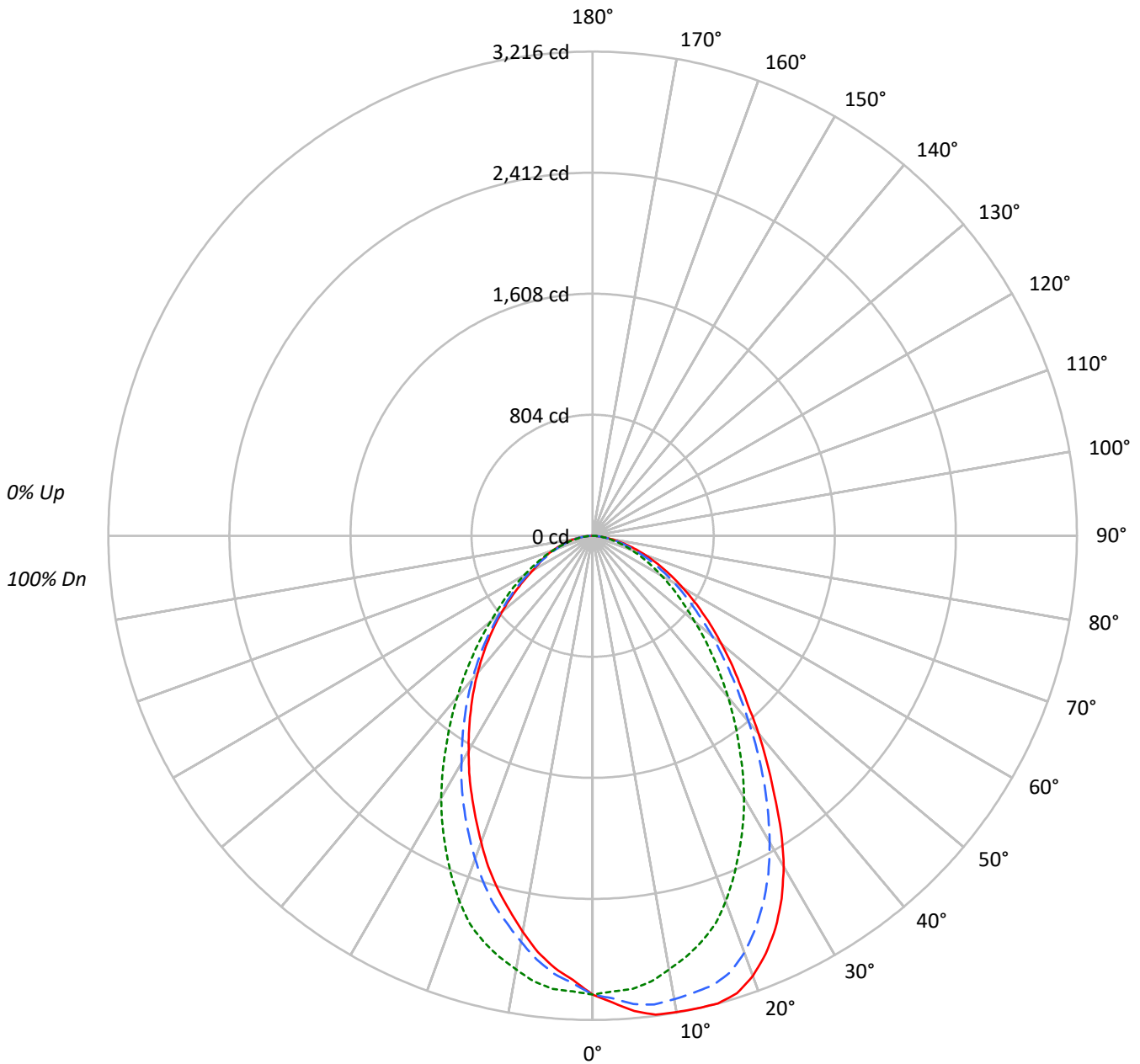
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87	87	87	87
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76	76	76	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66	66	66	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58	58	58	58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52	52	52	52
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47	47	47	47
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42	42	42	42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38	38	38	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32	32	32	32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	375834	375834	375834
5°	392363	374174	356865
10°	402298	366364	334488
15°	410609	356593	310367
20°	408434	339259	284208
25°	391278	313703	258570
30°	361480	286435	234350
35°	316860	254777	212133
40°	275901	225101	191062
45°	240130	196346	170704
50°	213940	169210	150654
55°	191176	148791	130297
60°	170686	129982	112319
65°	151680	114059	106704
70°	133148	98238	99536
75°	112757	83734	92264
80°	86588	71316	84031
85°	50807	55760	70903



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.6	5.2
10°-20°	787.8	14.5
20°-30°	1076.4	19.8
30°-40°	1080.8	19.9
40°-50°	894.1	16.4
50°-60°	648.0	11.9
60°-70°	410.4	7.5
70°-80°	207.5	3.8
80°-90°	50.8	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°	2149.8	39.5
0°-40°	3230.6	59.4
0°-60°	4772.7	87.7
0°-90°	5441.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5441.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3047	3047	3047	3047	3047	
5°	3169	3122	3022	2922	2882	304
15°	3216	3090	2792	2534	2430	904
25°	2875	2685	2305	2015	1900	1314
35°	2104	1979	1692	1484	1409	1319
45°	1377	1298	1126	1014	979	1071
55°	889	810	692	631	606	800
65°	520	462	391	351	366	517
75°	237	204	176	183	194	253
85°	36	36	39	47	50	50
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°	3047.0	3047.0	3047.0	3047.0	3047.0	3047.0	3047.0	3047.0	3047.0
2.5°	3104.4	3093.6	3075.7	3054.2	3029.1	3000.4	2975.4	2961.0	2953.8
5°	3168.9	3154.6	3122.3	3075.7	3022.0	2968.2	2921.6	2892.9	2882.2
7.5°	3208.4	3186.8	3140.2	3068.6	2986.1	2907.2	2839.1	2799.7	2789.0
10°	3212.0	3186.8	3125.9	3029.1	2925.1	2821.2	2738.7	2681.4	2670.6
12.5°	3215.5	3183.3	3108.0	2993.3	2864.3	2735.2	2634.8	2566.7	2548.8
15°	3215.5	3183.3	3090.1	2953.8	2792.5	2645.5	2534.5	2455.5	2430.5
17.5°	3186.8	3151.0	3039.9	2882.2	2706.5	2541.6	2412.6	2330.1	2305.0
20°	3111.6	3072.1	2946.7	2774.6	2584.6	2412.6	2283.5	2197.5	2165.2
22.5°	3004.1	2957.5	2824.8	2638.4	2448.4	2272.8	2147.2	2057.7	2029.0
25°	2875.0	2828.4	2685.0	2502.2	2305.0	2140.2	2014.6	1932.2	1899.9
27.5°	2717.2	2667.1	2527.3	2344.4	2161.6	1996.7	1882.0	1806.7	1774.4
30°	2538.0	2484.2	2351.6	2175.9	2011.1	1853.3	1742.2	1681.3	1645.4
32.5°	2330.1	2283.5	2165.2	2007.4	1853.3	1702.8	1609.6	1555.8	1527.1
35°	2104.3	2079.2	1978.8	1842.6	1692.0	1566.5	1484.0	1433.9	1408.8
37.5°	1903.5	1878.5	1792.3	1677.7	1545.0	1430.4	1362.2	1319.2	1297.7
40°	1713.5	1692.0	1609.6	1512.8	1398.0	1297.7	1240.3	1208.1	1186.6
42.5°	1527.1	1516.4	1448.3	1358.6	1258.2	1172.2	1125.6	1100.6	1082.6
45°	1376.6	1362.2	1297.7	1211.6	1125.6	1054.0	1014.5	996.5	978.6
47.5°	1243.9	1226.0	1157.9	1082.6	1003.7	939.2	903.3	885.5	878.3
50°	1114.9	1096.9	1036.0	960.8	881.8	835.2	806.6	788.6	785.1
52.5°	1000.2	982.2	914.2	842.4	781.4	742.0	717.0	699.1	691.9
55°	889.0	867.6	810.2	742.0	691.9	656.0	630.9	612.9	605.9
57.5°	788.6	767.2	717.0	652.5	605.9	573.5	552.1	534.1	526.9
60°	691.9	673.9	627.3	566.3	526.9	498.3	476.8	462.4	455.3
62.5°	602.2	587.9	541.3	487.5	455.3	430.2	412.2	397.9	405.1
65°	519.7	505.5	462.4	415.8	390.8	365.6	351.4	351.4	365.6
67.5°	440.9	426.6	390.8	351.4	329.8	311.8	301.1	311.8	322.6
70°	369.2	354.9	322.6	290.4	272.4	258.2	258.2	268.9	276.0
72.5°	301.1	286.8	261.7	236.6	222.3	211.5	222.3	229.4	236.6
75°	236.6	225.8	204.4	186.4	175.7	172.0	182.9	190.0	193.6
77.5°	175.7	168.5	154.1	139.8	132.6	136.3	147.0	150.6	154.1
80°	121.9	118.3	107.5	100.4	100.4	103.9	111.1	114.7	118.3
82.5°	75.3	75.3	68.1	64.5	68.1	75.3	78.8	82.5	82.5
85°	35.9	39.4	35.9	35.9	39.4	46.6	46.6	50.1	50.1
87.5°	10.7	10.7	14.4	14.4	17.9	17.9	17.9	17.9	21.5
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)