

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: P580484

Luminaire Tested: **HC435D010-HM43040927-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580484  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC435D010-HM43040927-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" 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: 2894.5 lumens  
Efficiency: N/A  
Efficacy: 85.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

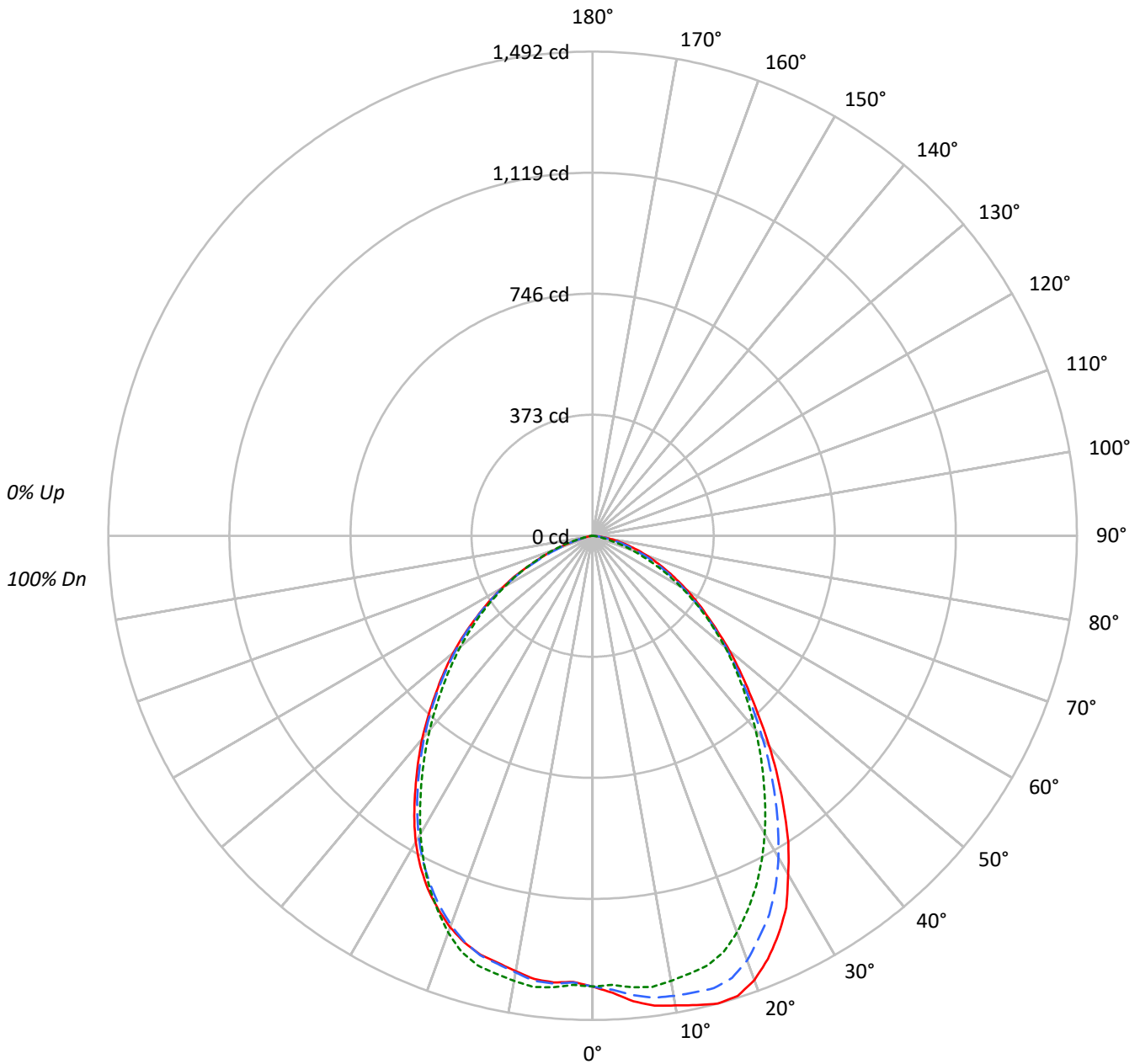
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88				88				
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76				76				
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67				67				
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58				58				
5	81	70	61	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52				52				
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46				46				
7	70	58	50	44	69	57	49	44	56	49	44	54	48	44	53	47	43	41				41				
8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	37				37				
9	62	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34				34				
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31				31				

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

	0°	90°	180°
0°	171327	171327	171327
5°	178259	172910	171053
10°	184078	174433	170676
15°	190549	174983	170654
20°	191196	170745	168514
25°	184438	162214	163493
30°	171625	151044	155317
35°	154613	138215	143304
40°	136300	125722	131470
45°	119193	113279	118861
50°	105540	101933	107325
55°	92836	90018	93631
60°	82888	76869	79188
65°	72848	62458	61349
70°	63653	46054	41942
75°	52756	27736	22351
80°	39991	10726	6606
85°	18681	2689	2689



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.0	4.6
10°-20°	391.0	13.5
20°-30°	566.2	19.6
30°-40°	597.4	20.6
40°-50°	517.0	17.9
50°-60°	383.0	13.2
60°-70°	220.8	7.6
70°-80°	77.1	2.7
80°-90°	8.1	0.3
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°	1091.1	37.7
0°-40°	1688.5	58.3
0°-60°	2588.5	89.4
0°-90°	2894.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2894.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1389	1389	1389	1389	1389	
5°	1440	1421	1396	1385	1382	138
15°	1492	1443	1370	1338	1336	420
25°	1355	1288	1192	1184	1201	620
35°	1027	980	918	938	952	641
45°	683	664	649	674	681	530
55°	432	422	419	434	435	389
65°	250	235	214	203	210	249
75°	111	94	58	47	47	119
85°	13	8	2	2	2	20
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°	1389.0	1389.0	1389.0	1389.0	1389.0	1389.0	1389.0	1389.0	1389.0
2.5°	1409.6	1405.9	1400.3	1392.7	1385.2	1379.6	1377.7	1375.9	1375.9
5°	1439.7	1432.2	1421.0	1405.9	1396.5	1390.8	1385.2	1381.5	1381.5
7.5°	1460.3	1452.8	1435.9	1415.2	1402.2	1390.8	1383.4	1377.7	1377.7
10°	1469.7	1460.3	1439.7	1413.4	1392.7	1377.7	1366.4	1362.7	1362.7
12.5°	1481.0	1469.7	1441.5	1407.8	1381.5	1362.7	1351.5	1347.7	1347.7
15°	1492.2	1479.1	1443.4	1404.0	1370.3	1347.7	1338.3	1336.4	1336.4
17.5°	1486.6	1469.7	1428.4	1381.5	1344.0	1321.4	1312.0	1312.0	1314.0
20°	1456.6	1439.7	1392.7	1340.1	1300.8	1283.8	1276.4	1280.1	1283.8
22.5°	1411.5	1390.8	1340.1	1289.6	1248.2	1233.3	1233.3	1238.9	1244.5
25°	1355.2	1336.4	1287.7	1231.3	1191.9	1180.6	1184.4	1193.8	1201.3
27.5°	1291.4	1270.8	1220.1	1167.5	1128.0	1122.4	1131.9	1145.0	1148.7
30°	1205.0	1188.2	1145.0	1094.3	1060.5	1058.7	1071.7	1081.2	1090.5
32.5°	1122.4	1103.7	1062.4	1013.6	989.2	991.0	1006.1	1017.3	1023.0
35°	1026.8	1009.8	979.8	940.3	917.9	921.6	938.5	949.8	951.7
37.5°	936.6	925.4	895.4	865.3	848.4	855.9	871.0	884.0	884.0
40°	846.5	837.2	814.7	790.3	780.8	790.3	805.2	816.5	816.5
42.5°	760.2	754.5	735.8	718.9	713.3	726.4	739.6	748.9	747.0
45°	683.3	677.7	664.5	651.4	649.4	662.6	673.8	679.5	681.4
47.5°	613.8	610.0	598.8	589.4	589.4	602.6	611.9	617.5	619.4
50°	550.0	546.3	536.8	529.3	531.2	544.4	551.9	557.5	559.3
52.5°	486.1	484.2	476.8	467.4	473.0	482.4	491.8	495.6	497.4
55°	431.7	431.7	422.3	414.9	418.6	427.9	433.6	435.4	435.4
57.5°	382.9	381.0	369.8	362.3	364.2	373.5	377.3	379.1	379.1
60°	336.0	334.2	322.8	311.6	311.6	317.2	319.1	321.0	321.0
62.5°	290.9	289.1	275.9	266.5	262.8	260.9	260.9	264.7	272.1
65°	249.6	247.7	234.6	219.6	214.0	208.4	202.8	206.5	210.2
67.5°	212.1	208.4	195.2	182.1	168.9	159.5	150.2	155.8	163.3
70°	176.5	172.6	157.7	142.6	127.7	112.6	105.1	112.6	116.3
72.5°	142.6	138.9	123.9	108.9	90.1	75.1	73.2	75.1	77.0
75°	110.7	108.9	93.9	77.0	58.2	46.9	46.9	46.9	46.9
77.5°	82.6	78.8	63.8	48.8	33.8	26.3	24.4	24.4	24.4
80°	56.3	52.6	39.5	28.1	15.1	11.2	11.2	9.3	9.3
82.5°	31.9	30.0	20.7	11.2	5.6	3.7	3.7	3.7	3.7
85°	13.2	11.2	7.5	3.7	1.9	1.9	1.9	1.9	1.9
87.5°	1.9	1.9	1.9	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)