

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: P580539

Luminaire Tested: **HC435D010-HM43040940-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580539  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC435D010-HM43040940-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3221.0 lumens  
Efficiency: N/A  
Efficacy: 95.6 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

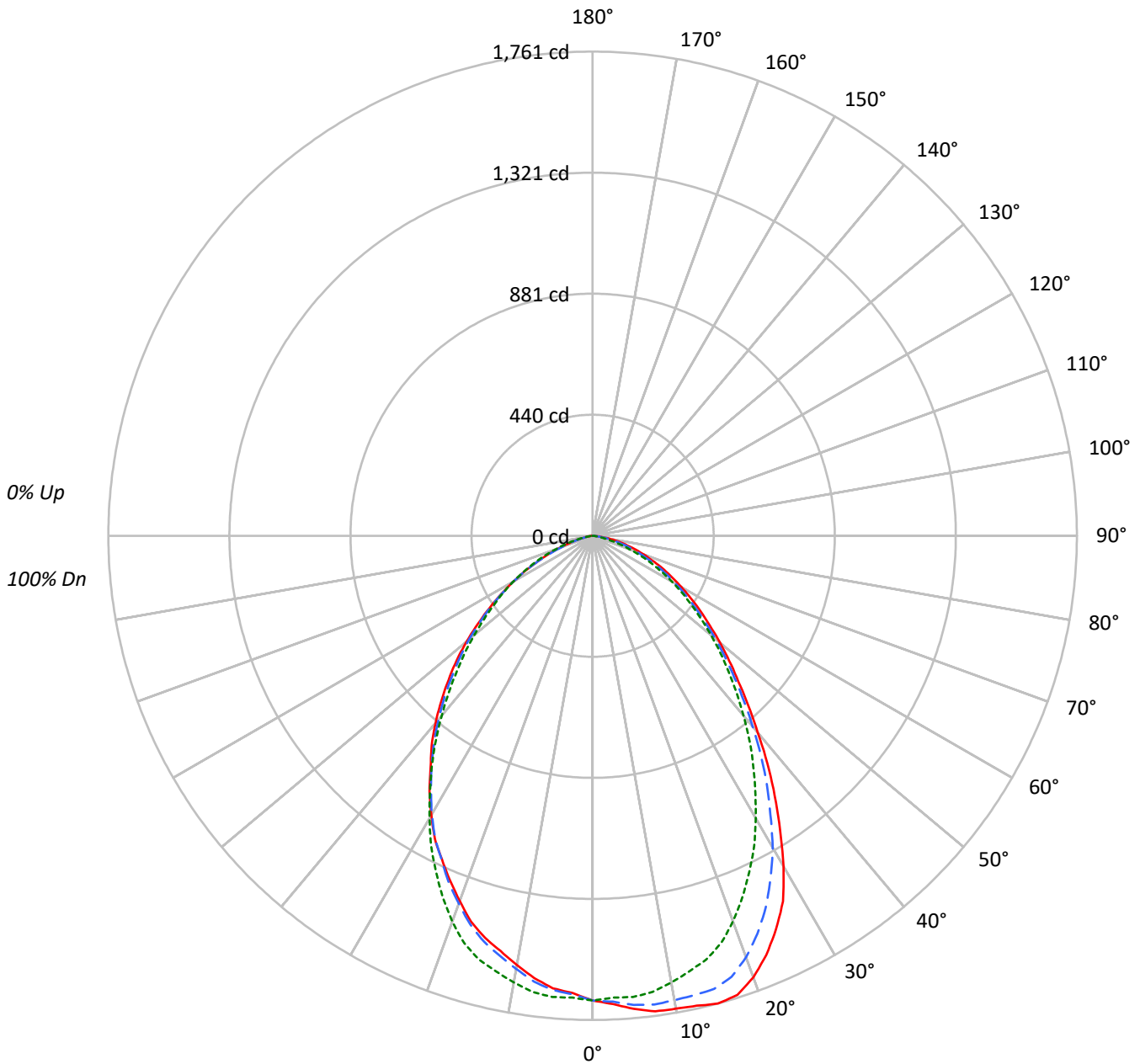
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	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	41	37	47	41	37	46	41	37	35																			
10	58	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°	208442	208442	208442
5°	213918	208458	204570
10°	218759	206660	198519
15°	224912	203740	193282
20°	224300	195921	185460
25°	214856	183431	176558
30°	197646	168947	167138
35°	173856	153303	154568
40°	150421	137234	142982
45°	130741	121932	129275
50°	116018	107555	114809
55°	102921	94341	98427
60°	91670	81827	81827
65°	81487	68004	63713
70°	70397	51463	45440
75°	59047	34027	28022
80°	44679	16337	14917
85°	23634	5944	5944



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.0	5.0
10°-20°	453.7	14.1
20°-30°	639.9	19.9
30°-40°	661.0	20.5
40°-50°	560.3	17.4
50°-60°	407.7	12.7
60°-70°	238.2	7.4
70°-80°	88.5	2.7
80°-90°	11.6	0.4
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°	1253.6	38.9
0°-40°	1914.7	59.4
0°-60°	2882.7	89.5
0°-90°	3221.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3221.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1690	1690	1690	1690	1690	
5°	1728	1713	1684	1658	1652	166
15°	1761	1707	1596	1528	1514	495
25°	1579	1490	1348	1300	1297	722
35°	1155	1104	1018	1020	1026	721
45°	750	728	699	724	741	583
55°	479	456	439	453	458	430
65°	279	256	233	218	218	277
75°	124	103	71	57	59	133
85°	17	10	4	4	4	23
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°	1689.9	1689.9	1689.9	1689.9	1689.9	1689.9	1689.9	1689.9	1689.9
2.5°	1704.7	1700.4	1696.2	1689.9	1681.5	1675.2	1668.9	1664.8	1664.8
5°	1727.7	1721.4	1713.0	1698.4	1683.6	1671.1	1658.5	1652.2	1652.2
7.5°	1744.6	1736.1	1719.3	1698.4	1673.2	1654.2	1635.3	1627.0	1622.7
10°	1746.6	1738.3	1715.1	1683.6	1650.0	1620.7	1599.7	1587.1	1585.0
12.5°	1750.9	1740.3	1711.0	1666.9	1622.7	1587.1	1563.9	1551.3	1547.2
15°	1761.3	1746.6	1706.7	1650.0	1595.5	1553.5	1528.3	1517.7	1513.6
17.5°	1750.9	1729.8	1681.5	1614.4	1553.5	1507.3	1482.1	1471.7	1471.7
20°	1708.8	1687.8	1631.1	1557.6	1492.6	1448.5	1423.3	1417.0	1412.9
22.5°	1650.0	1627.0	1566.1	1488.4	1423.3	1383.4	1366.7	1358.2	1356.1
25°	1578.7	1555.6	1490.5	1410.7	1347.8	1314.2	1299.5	1299.5	1297.3
27.5°	1498.9	1469.5	1402.3	1333.1	1272.1	1247.0	1240.7	1240.7	1242.8
30°	1387.7	1366.7	1309.9	1242.8	1186.2	1169.3	1169.3	1173.5	1173.5
32.5°	1268.0	1253.3	1202.9	1144.1	1100.1	1089.5	1093.8	1102.1	1104.2
35°	1154.6	1137.8	1104.2	1051.7	1018.1	1014.0	1020.3	1026.5	1026.5
37.5°	1043.3	1026.5	1003.5	961.5	936.3	938.4	946.7	955.2	961.5
40°	934.2	921.6	904.8	871.2	852.3	860.8	871.2	879.6	888.0
42.5°	837.6	825.0	812.4	787.2	774.7	785.1	797.7	806.1	814.6
45°	749.5	741.1	728.5	707.4	699.0	709.6	724.3	732.6	741.1
47.5°	673.8	669.7	652.9	633.9	629.8	640.2	652.9	663.4	669.7
50°	604.6	598.3	583.6	564.7	560.5	577.3	585.7	592.0	598.3
52.5°	537.4	531.1	514.3	497.5	497.5	510.2	516.5	518.5	524.8
55°	478.6	472.3	455.6	443.0	438.7	449.3	453.4	453.4	457.7
57.5°	424.1	417.8	400.9	386.3	384.2	390.5	390.5	390.5	392.6
60°	371.6	365.3	348.4	335.9	331.7	333.8	331.7	329.6	331.7
62.5°	323.3	317.0	300.2	285.5	281.3	281.3	275.0	272.9	275.0
65°	279.2	268.7	256.2	241.4	233.0	226.7	218.3	218.3	218.3
67.5°	235.1	226.7	212.0	197.4	186.8	176.4	163.8	167.9	170.1
70°	195.2	188.9	172.2	157.5	142.7	130.2	119.7	123.9	126.0
72.5°	159.5	151.2	136.5	119.7	107.1	90.3	84.0	88.1	88.1
75°	123.9	115.4	102.8	86.1	71.4	56.6	56.6	58.8	58.8
77.5°	92.4	84.0	71.4	56.6	44.1	33.6	35.7	35.7	35.7
80°	62.9	56.6	46.2	33.6	23.0	18.9	18.9	18.9	21.0
82.5°	35.7	31.5	25.2	16.7	10.5	10.5	10.5	10.5	10.5
85°	16.7	12.6	10.5	6.3	4.2	4.2	4.2	4.2	4.2
87.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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)