

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: P580503

Luminaire Tested: **HC435D010-HM43040930-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580503  
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-HM43040930-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3090.4 lumens  
Efficiency: N/A  
Efficacy: 91.7 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

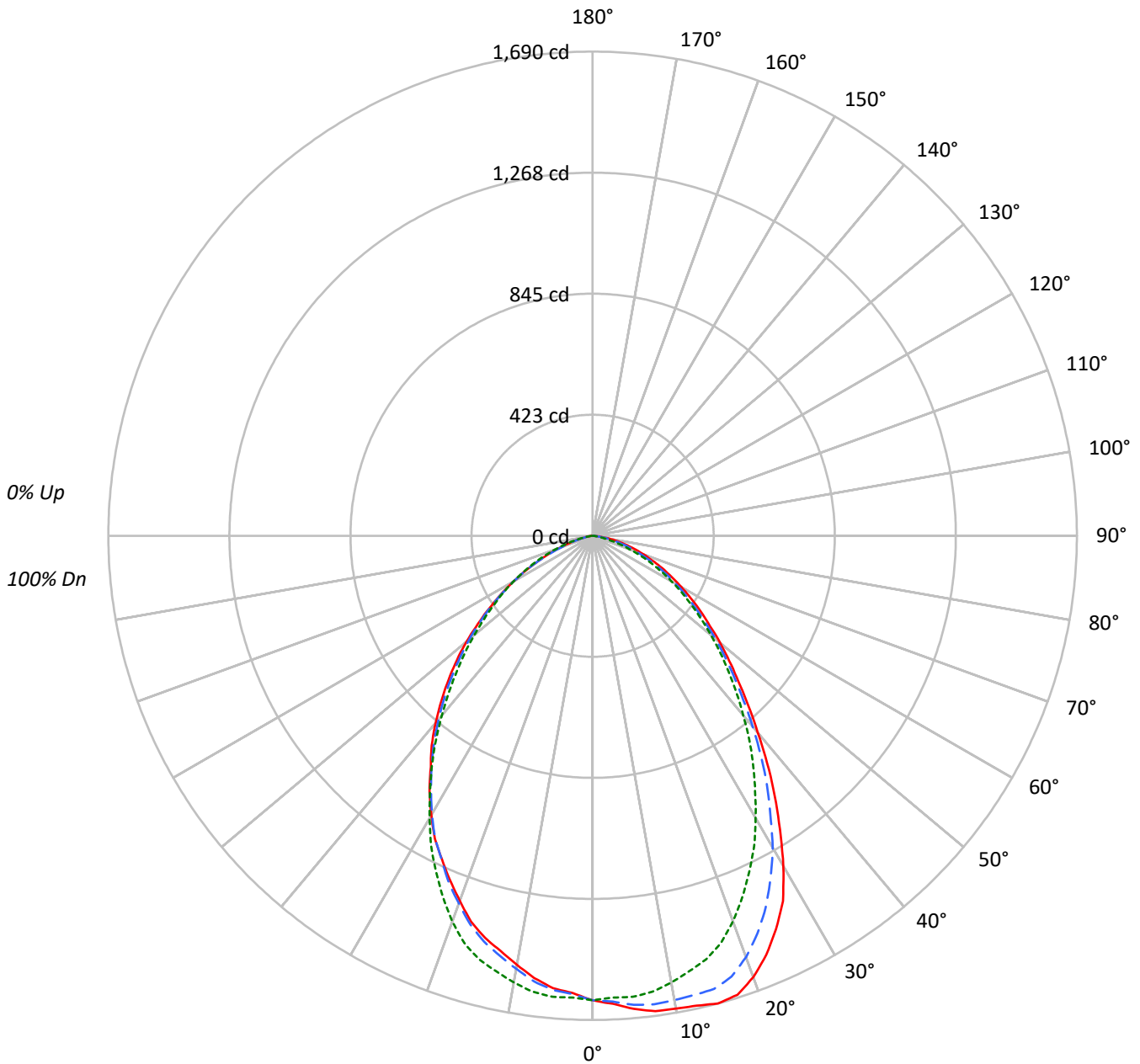
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	199993	199993	199993
5°	205251	200001	196262
10°	209891	198293	190465
15°	215782	195478	185441
20°	215204	187980	177925
25°	206132	175973	169400
30°	189628	162068	160359
35°	166809	147099	148319
40°	144319	131663	137186
45°	125420	116995	124025
50°	111316	103180	110146
55°	98771	90513	94405
60°	87945	78497	78497
65°	78160	65260	61145
70°	67548	49407	43565
75°	56617	32645	26879
80°	42974	15698	14277
85°	22785	5661	5661



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.6	5.0
10°-20°	435.3	14.1
20°-30°	613.9	19.9
30°-40°	634.2	20.5
40°-50°	537.6	17.4
50°-60°	391.2	12.7
60°-70°	228.6	7.4
70°-80°	85.0	2.7
80°-90°	11.1	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°	1202.8	38.9
0°-40°	1837.0	59.4
0°-60°	2765.8	89.5
0°-90°	3090.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3090.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1621	1621	1621	1621	1621	
5°	1658	1644	1615	1591	1585	159
15°	1690	1637	1531	1466	1452	475
25°	1515	1430	1293	1247	1245	693
35°	1108	1060	977	979	985	692
45°	719	699	671	695	711	560
55°	459	437	421	435	439	413
65°	268	246	224	210	210	266
75°	119	99	68	54	56	128
85°	16	10	4	4	4	22
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°	1621.4	1621.4	1621.4	1621.4	1621.4	1621.4	1621.4	1621.4	1621.4
2.5°	1635.4	1631.5	1627.4	1621.4	1613.3	1607.3	1601.3	1597.2	1597.2
5°	1657.7	1651.6	1643.5	1629.5	1615.3	1603.3	1591.1	1585.1	1585.1
7.5°	1673.7	1665.7	1649.6	1629.5	1605.3	1587.1	1569.0	1560.9	1557.0
10°	1675.8	1667.7	1645.5	1615.3	1583.2	1554.9	1534.8	1522.7	1520.7
12.5°	1679.8	1669.7	1641.5	1599.2	1557.0	1522.7	1500.5	1488.4	1484.5
15°	1689.8	1675.8	1637.4	1583.2	1530.8	1490.4	1466.3	1456.3	1452.2
17.5°	1679.8	1659.7	1613.3	1548.9	1490.4	1446.1	1422.0	1411.9	1411.9
20°	1639.5	1619.3	1564.9	1494.5	1432.1	1389.7	1365.5	1359.6	1355.5
22.5°	1583.2	1560.9	1502.6	1428.0	1365.5	1327.3	1311.1	1303.2	1301.1
25°	1514.6	1492.4	1430.1	1353.5	1293.0	1260.8	1246.7	1246.7	1244.7
27.5°	1438.0	1409.9	1345.4	1279.0	1220.6	1196.4	1190.3	1190.3	1192.3
30°	1331.4	1311.1	1256.9	1192.3	1137.9	1121.9	1121.9	1125.9	1125.9
32.5°	1216.5	1202.5	1154.1	1097.7	1055.4	1045.3	1049.4	1057.5	1059.5
35°	1107.8	1091.6	1059.5	1009.1	976.9	972.8	978.9	985.0	985.0
37.5°	1001.0	985.0	962.7	922.5	898.3	900.3	908.4	916.4	922.5
40°	896.3	884.3	868.1	835.9	817.7	825.8	835.9	843.9	852.0
42.5°	803.7	791.5	779.5	755.3	743.2	753.3	765.3	773.4	781.5
45°	719.0	711.0	698.9	678.8	670.7	680.8	694.9	702.9	711.0
47.5°	646.5	642.5	626.4	608.3	604.3	614.3	626.4	636.5	642.5
50°	580.1	574.0	560.0	541.8	537.7	553.9	561.9	568.0	574.0
52.5°	515.6	509.6	493.4	477.4	477.4	489.4	495.5	497.5	503.6
55°	459.3	453.2	437.0	425.0	420.9	431.1	435.1	435.1	439.0
57.5°	406.9	400.8	384.7	370.6	368.6	374.6	374.6	374.6	376.7
60°	356.5	350.5	334.4	322.3	318.2	320.2	318.2	316.2	318.2
62.5°	310.2	304.2	288.0	273.9	269.9	269.9	263.8	261.9	263.8
65°	267.8	257.8	245.7	231.7	223.6	217.5	209.5	209.5	209.5
67.5°	225.6	217.5	203.4	189.3	179.3	169.2	157.1	161.2	163.1
70°	187.3	181.3	165.1	151.1	137.0	124.9	114.8	118.8	120.8
72.5°	153.1	145.0	130.9	114.8	102.7	86.7	80.6	84.6	84.6
75°	118.8	110.8	98.7	82.6	68.5	54.4	54.4	56.4	56.4
77.5°	88.6	80.6	68.5	54.4	42.3	32.3	34.3	34.3	34.3
80°	60.5	54.4	44.3	32.3	22.1	18.1	18.1	18.1	20.1
82.5°	34.3	30.2	24.2	16.1	10.1	10.1	10.1	10.1	10.1
85°	16.1	12.1	10.1	6.1	4.0	4.0	4.0	4.0	4.0
87.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)