

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: P580542

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580542  
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: HC435D010-HM43040940-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3172.7 lumens  
Efficiency: N/A  
Efficacy: 94.1 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

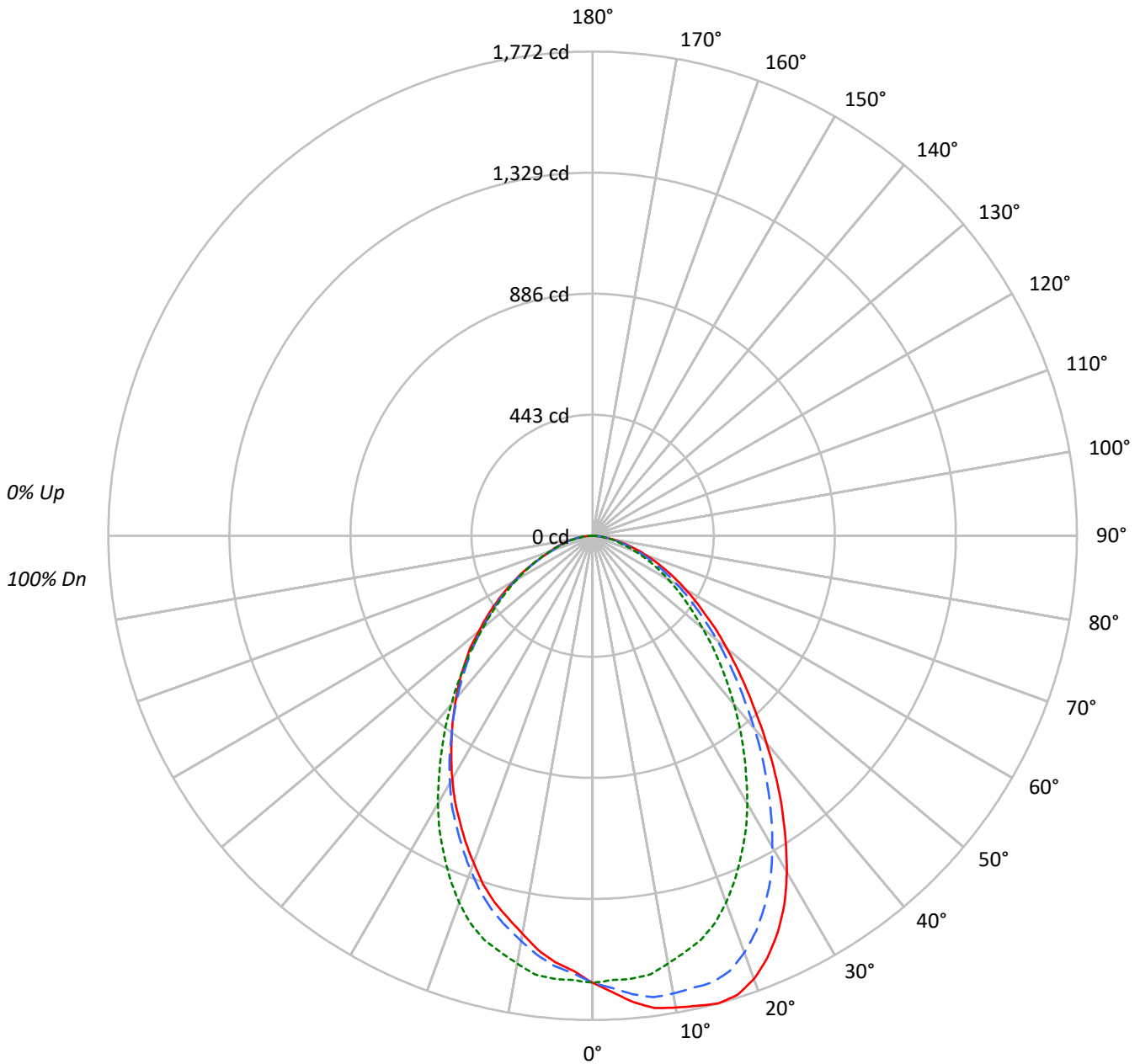
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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°	201793	201793	201793
5°	212185	201524	193984
10°	219636	199120	185180
15°	226343	195504	177256
20°	226610	187442	167057
25°	218082	175211	156634
30°	202489	161228	146273
35°	181521	145141	135354
40°	159261	129505	125110
45°	139201	114657	115408
50°	122926	100340	103986
55°	108383	88965	93502
60°	96876	78744	81852
65°	85807	69259	69259
70°	74977	59073	59073
75°	64051	50040	56045
80°	50717	44821	50717
85°	32833	38636	47552



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.0	4.9
10°-20°	436.5	13.8
20°-30°	611.5	19.3
30°-40°	630.0	19.9
40°-50°	536.4	16.9
50°-60°	397.4	12.5
60°-70°	249.4	7.9
70°-80°	123.9	3.9
80°-90°	32.5	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°	1203.0	37.9
0°-40°	1833.1	57.8
0°-60°	2766.9	87.2
0°-90°	3172.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3172.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1636	1636	1636	1636	1636	
5°	1714	1684	1628	1581	1567	165
15°	1772	1693	1531	1420	1388	498
25°	1602	1491	1287	1176	1151	733
35°	1206	1115	964	901	899	752
45°	798	743	657	645	662	619
55°	504	464	414	422	435	456
65°	294	265	237	233	237	293
75°	134	120	105	113	118	144
85°	23	23	27	32	34	30
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°	1636.0	1636.0	1636.0	1636.0	1636.0	1636.0	1636.0	1636.0	1636.0
2.5°	1671.7	1665.4	1657.0	1642.3	1627.6	1615.0	1602.4	1596.1	1593.9
5°	1713.7	1701.1	1684.3	1657.0	1627.6	1602.4	1581.4	1570.9	1566.7
7.5°	1743.1	1730.5	1703.2	1661.2	1619.2	1581.4	1547.7	1533.1	1528.9
10°	1753.6	1738.9	1701.1	1644.4	1589.8	1543.6	1505.8	1486.9	1478.5
12.5°	1762.0	1743.1	1694.8	1627.6	1560.3	1503.7	1463.8	1438.6	1432.3
15°	1772.5	1751.5	1692.7	1610.8	1531.0	1463.8	1419.7	1396.6	1388.1
17.5°	1762.0	1738.9	1669.6	1577.2	1486.9	1413.4	1365.1	1344.1	1335.6
20°	1726.4	1701.1	1623.4	1524.7	1428.0	1352.5	1304.2	1283.2	1272.7
22.5°	1671.7	1644.4	1564.6	1459.6	1360.8	1287.4	1241.1	1220.2	1213.9
25°	1602.4	1575.1	1491.1	1384.0	1287.4	1215.9	1176.0	1157.2	1150.9
27.5°	1520.4	1493.2	1411.3	1306.3	1213.9	1146.7	1115.1	1096.2	1092.1
30°	1421.7	1394.4	1314.6	1218.1	1132.0	1068.9	1043.7	1029.0	1027.0
32.5°	1312.6	1289.5	1215.9	1127.7	1045.9	993.4	974.5	963.9	961.8
35°	1205.5	1180.3	1115.1	1035.3	963.9	917.7	901.0	898.9	898.9
37.5°	1096.2	1071.1	1018.6	945.1	884.1	842.1	835.8	837.9	837.9
40°	989.1	966.1	919.9	859.0	804.3	772.9	770.7	775.0	777.0
42.5°	888.3	869.4	827.5	775.0	728.7	703.5	705.6	714.1	720.4
45°	798.0	781.3	743.4	697.2	657.3	638.4	644.7	655.3	661.6
47.5°	716.1	701.5	665.7	623.7	590.1	577.5	585.9	598.5	607.0
50°	640.6	628.0	594.4	550.2	522.9	514.6	525.0	537.6	541.9
52.5°	573.4	560.8	525.0	487.3	466.2	462.1	472.5	483.0	489.3
55°	504.0	493.5	464.1	430.5	413.7	411.6	422.2	430.5	434.8
57.5°	447.4	436.8	409.5	380.1	365.4	363.3	373.8	380.1	382.3
60°	392.7	382.3	357.0	329.7	319.2	319.2	325.5	329.7	331.8
62.5°	342.4	331.8	308.8	285.6	277.2	277.2	277.2	279.3	285.6
65°	294.0	285.6	264.6	243.6	237.3	233.1	233.1	233.1	237.3
67.5°	249.9	241.5	224.7	205.8	199.5	193.2	191.1	195.4	195.4
70°	207.9	201.6	184.8	170.1	163.8	157.5	155.4	163.8	163.8
72.5°	170.1	163.8	153.3	138.6	132.3	130.2	134.4	138.6	140.7
75°	134.4	128.1	119.7	111.3	105.0	107.1	113.4	115.5	117.6
77.5°	100.8	98.7	90.3	84.0	84.0	86.1	90.3	94.5	96.6
80°	71.4	69.4	65.1	60.9	63.1	67.2	69.4	73.5	71.4
82.5°	44.1	44.1	42.0	42.0	44.1	48.3	50.4	52.5	54.6
85°	23.2	23.2	23.2	25.2	27.3	29.4	31.5	33.6	33.6
87.5°	6.3	8.4	8.4	10.5	12.6	12.6	14.7	14.7	14.7
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)