

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: METALUX

Report Number: RKS180522018-10

Luminaire Tested: **LHB-12-UNV-L850-CD-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-41-14  
Report Number: RKS180522018-10  
Test Lab: BAY AREA COMPLIANCE LABS  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: LHB-12-UNV-L850-CD-U  
Description: High Bay Luminaires for Commercial and Industrial Buildings  
Light Source: -  
Ballast/Driver: -

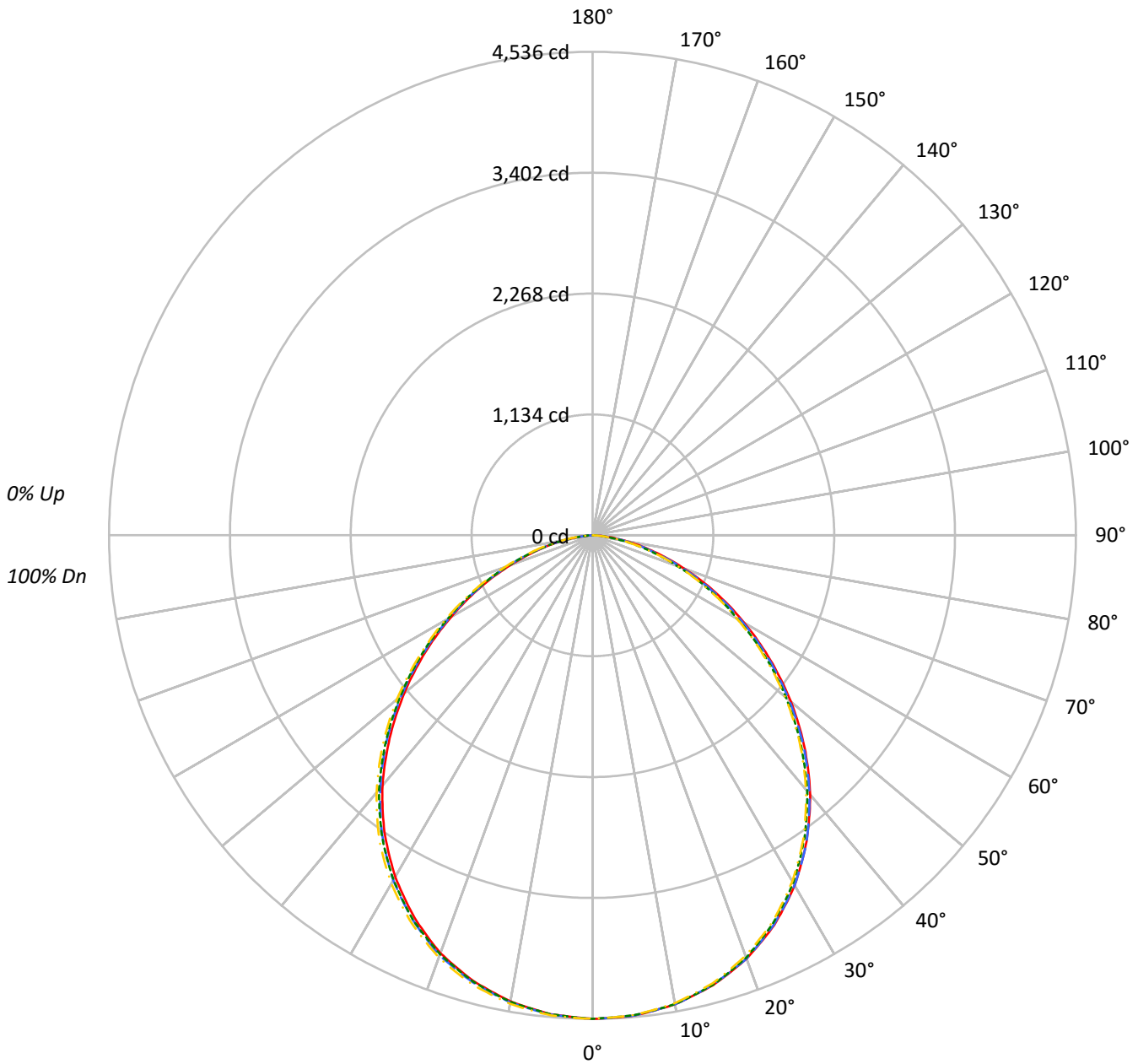
Luminaire Equipment:	<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
	AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
	AS-5443-2	Good	REFLECTOR
	AS-5443-3	Good	DRIVER
	AS-5443-4	Good	UPPER MODULE
	AS-5443-5	Good	LENS
	AS-5443-6	Good	DRIVER 2
	AS-5443-7	Good	TRIM RING

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11493.3 lumens  
Efficiency: N/A  
Efficacy: 131.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.23 / 1.32  
Luminous Opening: Rectangular (W 0.99' x L: 1.92' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 87.7  
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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CATALOG NUMBER: LHB-12-UNV-L850-CD-U

### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    - - - 90°-270°    - · - 135°-315°



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26

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

	0°	90°	180°	270°
0°	25713	25713	25713	25713
5°	25735	25707	25658	25655
10°	25713	25701	25555	25578
15°	25644	25623	25393	25432
20°	25502	25435	25162	25226
25°	25239	25102	24743	24908
30°	24833	24647	24220	24433
35°	24246	23990	23538	23835
40°	23523	23195	22685	23050
45°	22568	22144	21574	21995
50°	21435	20920	20333	20774
55°	20131	19531	18927	19383
60°	18651	17867	17322	17806
65°	17161	16219	15591	16077
70°	15269	14156	13551	14069
75°	13176	11987	11314	11739
80°	10724	9245	8566	8938
85°	7460	5093	4032	4950



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	429.2	3.7
10°-20°	1227.5	10.7
20°-30°	1842.9	16.0
30°-40°	2164.1	18.8
40°-50°	2129.7	18.5
50°-60°	1770.0	15.4
60°-70°	1207.8	10.5
70°-80°	597.1	5.2
80°-90°	125.0	1.1
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°	3499.6	30.4
0°-40°	5663.7	49.3
0°-60°	9563.4	83.2
0°-90°	11493.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11493.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4536	4536	4536	4536	4536	
5°	4523	4518	4509	4509	4523	430
15°	4370	4366	4327	4334	4370	1233
25°	4035	4013	3956	3982	4035	1857
35°	3504	3467	3402	3444	3504	2190
45°	2815	2762	2691	2744	2815	2170
55°	2037	1976	1915	1961	2037	1823
65°	1279	1209	1162	1199	1279	1268
75°	602	547	517	536	602	647
85°	115	78	62	76	115	144
90°	0	0	0	0	0	16
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: RKS180522018-10  
 CATALOG NUMBER: LHB-12-UNV-L850-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	4536.0	4536.0	4536.0	4536.0	4536.0	4536.0	4536.0	4536.0	4536.0	4536.0	4536.0
5°	4522.7	4522.4	4521.8	4518.5	4517.8	4513.9	4516.8	4513.1	4509.1	4511.0	4512.7
10°	4467.1	4467.1	4467.8	4459.7	4465.0	4456.2	4456.5	4451.7	4439.7	4446.4	4448.5
15°	4369.7	4367.7	4365.0	4359.1	4366.1	4352.8	4350.8	4342.0	4327.0	4333.4	4340.8
20°	4227.5	4225.5	4226.8	4221.2	4216.5	4210.4	4197.9	4189.1	4171.2	4178.3	4194.1
25°	4035.3	4027.0	4028.1	4025.5	4013.4	4011.7	3999.9	3981.0	3956.0	3971.5	3985.3
30°	3793.9	3787.4	3792.3	3781.7	3765.5	3762.8	3749.1	3734.4	3700.2	3718.5	3738.5
35°	3503.7	3499.0	3505.8	3494.4	3466.8	3477.6	3455.8	3438.0	3401.5	3411.9	3438.3
40°	3178.9	3173.2	3168.4	3167.7	3134.6	3141.5	3116.9	3106.0	3065.6	3073.7	3098.3
45°	2815.2	2815.0	2803.3	2798.2	2762.3	2776.8	2748.8	2734.2	2691.2	2704.6	2732.1
50°	2430.6	2423.3	2409.9	2407.6	2372.2	2377.2	2359.7	2349.3	2305.7	2316.1	2339.8
55°	2037.0	2031.6	2014.4	2011.0	1976.3	1978.5	1957.2	1958.4	1915.1	1925.1	1944.9
60°	1645.1	1638.3	1620.6	1613.1	1576.0	1582.3	1567.0	1568.1	1527.9	1532.4	1549.6
65°	1279.4	1268.6	1251.0	1230.5	1209.2	1208.3	1196.7	1197.3	1162.4	1174.8	1182.0
70°	921.3	915.6	899.8	876.8	854.1	851.2	856.4	860.3	817.6	835.0	842.3
75°	601.6	597.8	578.5	564.0	547.3	540.4	540.8	550.8	516.6	525.8	534.7
80°	328.5	321.8	311.2	293.9	283.2	279.4	280.0	287.5	262.4	269.1	271.6
85°	114.7	109.3	103.9	88.2	78.3	74.0	80.2	88.5	62.0	69.6	68.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4536.0	4536.0	4536.0	4536.0	4536.0	4536.0
5°	4514.8	4508.7	4514.3	4520.3	4517.5	4522.7
10°	4449.5	4443.7	4452.8	4462.4	4462.1	4467.1
15°	4342.8	4333.7	4351.6	4360.6	4357.0	4369.7
20°	4193.8	4181.7	4208.8	4215.3	4210.5	4227.5
25°	3995.6	3982.3	4008.3	4015.8	4015.2	4035.3
30°	3746.5	3732.8	3765.2	3774.0	3770.9	3793.9
35°	3454.6	3444.3	3471.7	3487.7	3484.6	3503.7
40°	3123.3	3115.0	3141.5	3151.8	3155.2	3178.9
45°	2751.1	2743.7	2776.5	2783.5	2780.3	2815.2
50°	2360.7	2355.7	2387.7	2395.4	2392.6	2430.6
55°	1962.1	1961.3	1989.9	1988.8	1999.1	2037.0
60°	1570.2	1570.6	1590.4	1599.4	1612.5	1645.1
65°	1199.6	1198.6	1219.8	1227.2	1237.7	1279.4
70°	848.8	848.9	867.9	876.6	887.9	921.3
75°	536.0	536.0	557.0	567.8	575.0	601.6
80°	277.6	273.8	283.7	294.5	310.2	328.5
85°	76.6	76.1	81.5	89.6	100.9	114.7
90°	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)