

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: RKS180419010-10

Luminaire Tested: **LHB-36-UNV-L840-CD-U w/out lens**

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: RKS180419010-10
Test Lab: BAY AREA COMPLIANCE LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: LHB-36-UNV-L840-CD-U w/out lens
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

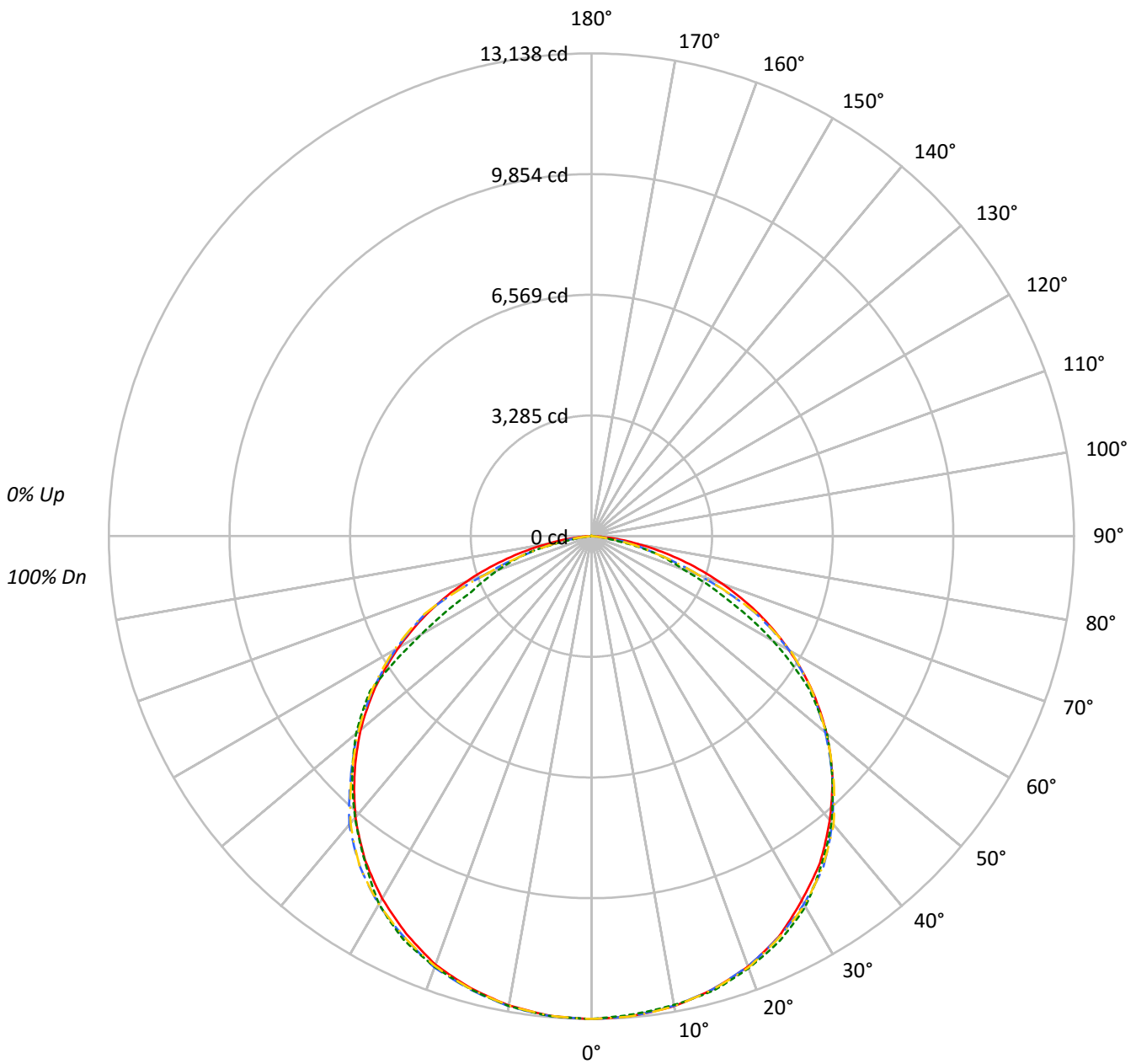
Summary

Lumens per Lamp: 37924.2 (1 lamp)
Luminaire Lumens: 37924.2 lumens
Efficiency: 100.0%
Efficacy: 142.3 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.3 / 1.41
Luminous Opening: Rectangular (W 0.99' x L: 3.76' x H: 0')
CIE Type: Direct

Input Watts (W): 266.58
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

TEST NUMBER: RKS180419010-10
CATALOG NUMBER: LHB-36-UNV-L840-CD-U w/out lens

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	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	47	41	36	34
8	61	47	39	33	59	46	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	31	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	38029	38029	38029	38029
5°	38071	37953	38061	38082
10°	38164	38079	38103	38159
15°	38258	38378	38146	38227
20°	38392	38545	38223	38413
25°	38458	38793	38112	38694
30°	38272	38934	38064	38649
35°	38343	38589	37981	38047
40°	38144	38438	37756	37827
45°	37989	37941	37330	37680
50°	37647	37696	36929	37680
55°	37058	36394	36269	37117
60°	36024	33140	35090	30916
65°	34582	28036	33484	24804
70°	32063	22774	30714	22952
75°	28461	20135	26604	20318
80°	22879	10213	20455	9396
85°	14271	2099	11186	1627



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	90°	180°	270°	360°	Flux
0°-10°	1246.6	3.3	3.3	0°	13138	13138	13138	13138	13138	
10°-20°	3606.7	9.5	9.5	5°	13102	13062	13099	13106	13102	###
20°-30°	5558.7	14.7	14.7	15°	12767	12807	12729	12756	12767	3607
30°-40°	6812.2	18.0	18.0	25°	12041	12146	11933	12115	12041	5543
40°-50°	7160.4	18.9	18.9	35°	10851	10921	10748	10767	10851	6779
50°-60°	6511.4	17.2	17.2	45°	9280	9268	9119	9205	9280	7152
60°-70°	4590.4	12.1	12.1	55°	7343	7212	7187	7355	7343	6550
70°-80°	2138.0	5.6	5.6	65°	5049	4093	4889	3622	5049	4978
80°-90°	298.4	0.8	0.8	75°	2545	1800	2379	1817	2545	2704
90°-100°	0.0	0.0	0.0	85°	430	63	337	49	430	578
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	59
110°-120°	0.0	0.0	0.0	95°	0	0	0	0	0	0
120°-130°	0.0	0.0	0.0	105°	0	0	0	0	0	0
130°-140°	0.0	0.0	0.0	115°	0	0	0	0	0	0
140°-150°	0.0	0.0	0.0	125°	0	0	0	0	0	0
150°-160°	0.0	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	0.8	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	0.7	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	10412.0	27.5	27.5	165°	0	0	0	0	0	0
0°-40°	17224.1	45.4	45.4	175°	0	10	0	12	0	0
0°-60°	30895.9	81.5	81.5	180°	0	0	0	0	0	0
0°-90°	37922.8	100.0	100.0							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	1.0	0.0	0.0							
0°-180°	37924.2	100.0	100.0							



TEST NUMBER: RKS180419010-10
 CATALOG NUMBER: LHB-36-UNV-L840-CD-U w/out lens

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	13137.9	13137.9	13137.9	13137.9	13137.9	13137.9	13137.9	13137.9	13137.9	13137.9	13137.9
5°	13102.4	13104.5	13101.0	13103.4	13062.0	13108.8	13108.3	13108.3	13099.0	13102.9	13109.0
10°	12984.4	12981.2	12973.6	12981.0	12955.3	12993.8	12985.9	12981.8	12963.5	12980.9	12987.4
15°	12766.6	12758.2	12767.4	12776.6	12806.7	12799.4	12771.3	12773.2	12729.4	12760.2	12770.1
20°	12463.4	12444.2	12458.7	12470.0	12513.3	12500.4	12489.8	12454.4	12408.6	12445.5	12492.5
25°	12041.3	12032.5	12053.0	12079.3	12146.4	12114.6	12064.8	12043.5	11933.0	12028.2	12047.3
30°	11450.5	11499.5	11563.5	11577.7	11648.6	11622.8	11597.3	11459.3	11388.4	11458.8	11575.9
35°	10850.8	10877.5	11000.6	10901.3	10920.6	10942.8	10976.5	10861.8	10748.5	10853.2	10986.9
40°	10094.6	10150.8	10204.8	10149.2	10172.6	10193.4	10255.1	10106.9	9992.0	10093.5	10253.0
45°	9280.3	9358.5	9281.1	9299.8	9268.5	9366.8	9318.9	9345.3	9119.2	9309.8	9265.0
50°	8360.1	8451.5	8306.9	8376.8	8370.9	8433.8	8340.2	8435.0	8200.7	8438.5	8306.9
55°	7343.2	7459.8	7299.8	7285.3	7211.7	7262.0	7320.2	7406.4	7186.8	7408.1	7245.5
60°	6222.7	6325.1	6218.9	6131.4	5724.5	6171.1	6264.9	6212.7	6061.3	6209.8	6142.5
65°	5049.1	5080.1	4900.4	4151.0	4093.4	4196.4	4929.5	4989.2	4888.7	4947.1	4979.5
70°	3788.5	3801.1	3118.5	2674.0	2690.9	2705.8	3137.3	3771.3	3629.1	3698.1	3137.0
75°	2544.8	2486.0	1781.5	1807.6	1800.4	1790.6	1799.2	2458.1	2378.8	2444.4	1728.6
80°	1372.5	1120.7	929.7	623.6	612.7	621.2	859.6	955.5	1227.1	921.0	744.9
85°	429.7	249.0	66.7	64.6	63.2	67.0	60.5	192.3	336.8	148.3	46.3
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	7.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0
170°	0.0	0.0	10.1	9.5	11.2	11.8	9.1	0.0	0.0	6.7	0.0
175°	0.0	8.0	12.1	12.5	10.2	9.5	14.5	7.3	0.0	0.0	8.7
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°	13137.9	13137.9	13137.9	13137.9	13137.9	13137.9
5°	13102.4	13106.2	13096.3	13098.9	13098.4	13102.4
10°	12984.8	12982.5	12977.9	12966.4	12960.5	12984.4
15°	12786.7	12756.4	12784.5	12749.8	12736.4	12766.6
20°	12473.7	12470.4	12474.7	12451.2	12413.2	12463.4
25°	12113.4	12115.4	12104.1	12043.9	11997.0	12041.3
30°	11607.1	11563.3	11596.1	11567.4	11461.3	11450.5
35°	10900.6	10767.0	10865.3	10989.9	10831.9	10850.8
40°	10141.8	10010.8	10117.6	10200.3	10088.3	10094.6
45°	9271.1	9204.6	9279.3	9235.1	9304.2	9280.3
50°	8331.5	8367.4	8328.0	8277.0	8411.1	8360.1
55°	7338.4	7354.9	7337.4	7283.9	7354.6	7343.2
60°	6194.9	5340.3	6106.5	6205.7	6136.0	6222.7
65°	4196.3	3621.5	4147.8	5022.0	4956.3	5049.1
70°	2644.2	2712.0	2664.2	3089.9	3696.2	3788.5
75°	1837.0	1816.7	1847.8	1753.5	2457.4	2544.8
80°	592.2	563.7	593.8	720.4	901.1	1372.5
85°	49.4	49.0	53.1	55.5	166.1	429.7
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	7.4	7.4	11.0	0.0
170°	9.5	8.8	12.8	9.4	12.0	0.0
175°	10.8	11.6	10.1	9.8	11.6	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)