

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-L850-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-L850-CD-U w/out lens  
Description: High Bay Luminaires for Commercial and Industrial Buildings  
Light Source: -  
Ballast/Driver: -

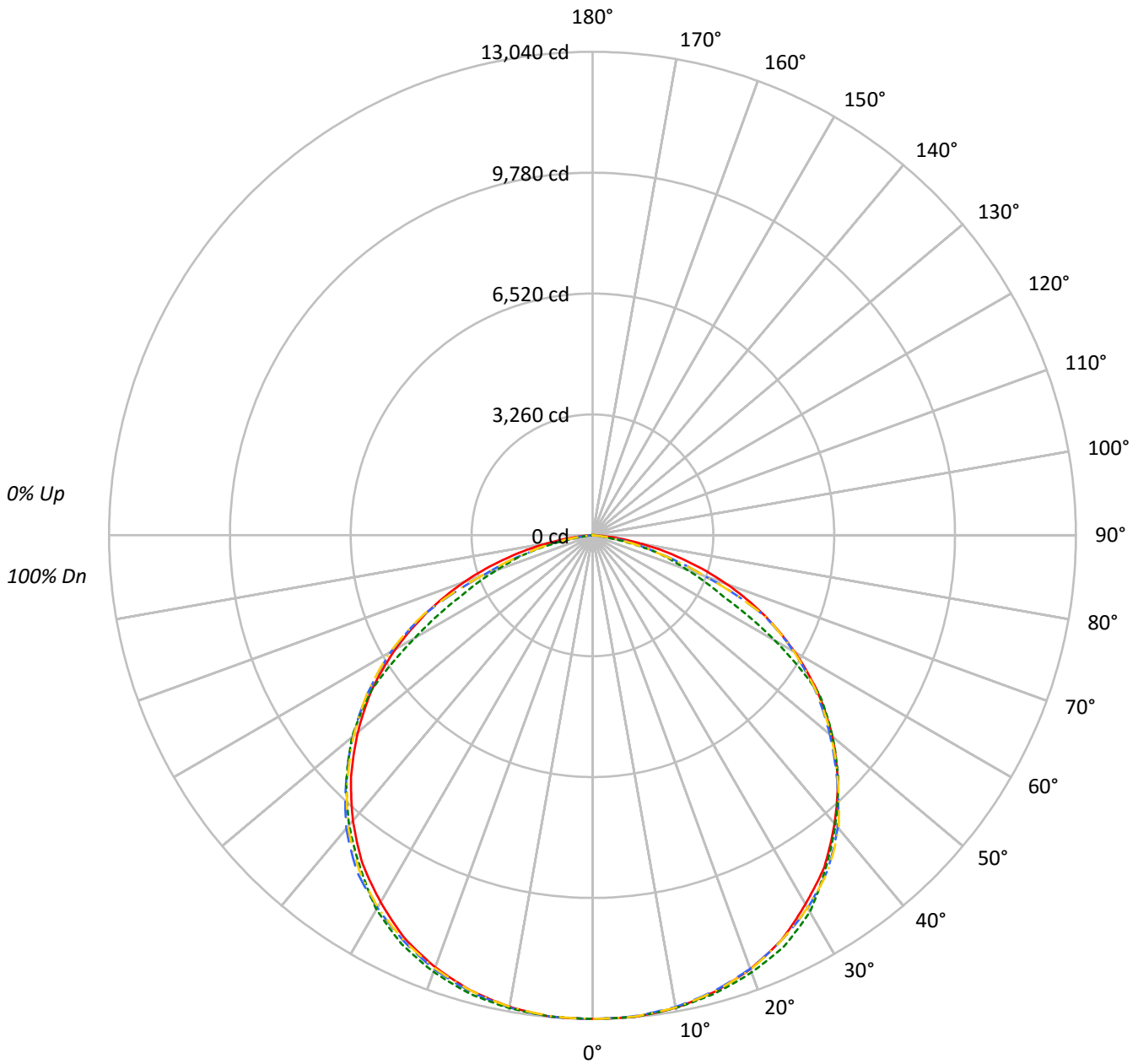
Luminaire Equipment:	<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
	AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
	AS-5443-2	Good	REFLECTOR
	AS-5443-3	Good	DRIVER
	AS-5443-4	Good	UPPER MODULE
	AS-5443-5	Good	LENS
	AS-5443-6	Good	DRIVER 2
	AS-5443-7	Good	TRIM RING

**Summary**

Lumens per Lamp: 38188.8 (1 lamp)  
Luminaire Lumens: 38188.8 lumens  
Efficiency: 100.0%  
Efficacy: 142.8 lumens/watt  
Spacing Criteria (0/90/45): 1.3 / 1.32 / 1.42  
Luminous Opening: Rectangular (W 0.99' x L: 3.76' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 267.34  
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-L850-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	102	99	95	98	95	92	94	92	90	91	89	87	85
2	100	91	85	79	97	90	83	78	86	81	76	83	79	75	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	63	51	42	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	36	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	26	38	31	26	37	31	26	36	30	26	24

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

	0°	90°	180°	270°
0°	37747	37747	37747	37747
5°	37876	37875	37852	37842
10°	38034	38043	37946	38052
15°	38183	38321	38075	38349
20°	38350	38643	38192	38598
25°	38488	39063	38299	38860
30°	38398	39199	38184	38945
35°	38551	38752	38214	38618
40°	38388	38515	37975	38573
45°	38330	38377	37697	38409
50°	38046	38089	37188	38112
55°	37541	37717	36672	36723
60°	36500	32926	35508	31955
65°	35114	26588	33743	27182
70°	32699	22897	31115	23296
75°	28774	20230	26891	19963
80°	22929	9868	20140	9658
85°	14420	1940	10761	2052



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	90°	180°	270°	360°	Flux
0°-10°	1239.9	3.2	3.2	0°	13040	13040	13040	13040	13040	
10°-20°	3597.7	9.4	9.4	5°	13035	13035	13027	13024	13035	###
20°-30°	5564.0	14.6	14.6	15°	12742	12788	12706	12797	12742	3600
30°-40°	6845.6	17.9	17.9	25°	12051	12231	11992	12167	12051	5549
40°-50°	7227.5	18.9	18.9	35°	10910	10967	10814	10929	10910	6813
50°-60°	6589.6	17.3	17.3	45°	9364	9375	9209	9383	9364	7214
60°-70°	4660.4	12.2	12.2	55°	7439	7474	7267	7277	7439	6631
70°-80°	2159.1	5.7	5.7	65°	5127	3882	4927	3969	5127	5055
80°-90°	299.9	0.8	0.8	75°	2573	1809	2404	1785	2573	2739
90°-100°	0.0	0.0	0.0	85°	434	58	324	62	434	581
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	60
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°	1.5	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	2.7	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	1.1	0.0	0.0	155°	0	0	0	0	0	1
0°-30°	10401.5	27.2	27.2	165°	8	13	0	8	8	2
0°-40°	17247.1	45.2	45.2	175°	9	15	0	17	9	1
0°-60°	31064.2	81.3	81.3	180°	0	0	0	0	0	
0°-90°	38183.6	100.0	100.0							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	5.0	0.0	0.0							
0°-180°	38188.8	100.0	100.0							



TEST NUMBER: RKS180419010-10  
 CATALOG NUMBER: LHB-36-UNV-L850-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°	13040.4	13040.4	13040.4	13040.4	13040.4	13040.4	13040.4	13040.4	13040.4	13040.4	13040.4
5°	13035.4	13016.8	13019.3	13015.1	13035.0	13021.5	13029.0	13031.5	13027.2	13025.8	13029.0
10°	12940.2	12913.2	12915.6	12910.7	12943.1	12928.9	12927.6	12929.2	12910.0	12925.8	12932.4
15°	12741.7	12712.6	12718.7	12730.3	12787.8	12754.5	12735.3	12727.4	12705.8	12719.3	12736.8
20°	12449.9	12409.8	12441.0	12433.3	12545.0	12462.8	12464.0	12432.0	12398.5	12429.1	12459.4
25°	12050.9	12032.0	12060.6	12082.6	12230.9	12122.8	12058.4	12045.7	11991.5	12025.0	12064.6
30°	11488.3	11494.0	11608.1	11596.4	11728.0	11648.2	11600.2	11492.7	11424.2	11467.0	11602.4
35°	10909.7	10926.7	11050.2	10899.7	10966.6	10960.4	11066.7	10909.9	10814.5	10889.4	11074.4
40°	10159.2	10196.2	10296.2	10174.7	10192.9	10211.0	10326.8	10154.1	10050.0	10153.2	10330.4
45°	9363.6	9452.6	9330.7	9337.5	9374.9	9391.4	9360.6	9425.3	9208.9	9416.3	9401.8
50°	8448.8	8583.5	8356.9	8427.6	8458.2	8497.0	8403.4	8531.8	8258.2	8504.5	8438.4
55°	7439.0	7551.1	7365.7	7448.8	7473.8	7499.6	7384.2	7495.5	7266.7	7460.2	7391.9
60°	6304.8	6335.2	6272.8	6300.4	5687.5	6343.3	6276.0	6267.1	6133.5	6262.5	6271.1
65°	5126.8	5119.6	5098.8	4293.2	3882.0	4272.0	5112.7	5054.3	4926.6	5041.3	4962.2
70°	3863.7	3847.7	3242.8	2673.2	2705.5	2684.8	3235.3	3771.2	3676.5	3747.7	3114.6
75°	2572.8	2569.4	1790.9	1847.4	1808.9	1865.8	1775.3	2514.9	2404.5	2398.5	1778.5
80°	1375.5	1063.7	879.9	586.9	592.0	584.4	803.4	970.5	1208.2	900.8	804.7
85°	434.2	226.2	73.8	68.9	58.4	63.5	60.1	173.2	324.0	152.6	59.4
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	8.0	0.0	0.0	0.0	8.1	10.1	8.3	0.0	0.0	7.7
160°	9.3	0.0	9.1	6.8	0.0	9.8	13.8	11.3	0.0	0.0	0.0
165°	7.6	10.3	10.7	10.8	13.3	14.5	12.1	11.0	0.0	0.0	9.7
170°	10.3	12.0	10.4	13.5	13.0	15.6	8.7	13.3	6.6	8.3	10.1
175°	9.0	12.0	17.4	15.5	15.4	15.6	15.4	17.3	0.0	7.7	13.4
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°	13040.4	13040.4	13040.4	13040.4	13040.4	13040.4
5°	13023.9	13023.7	13019.1	13017.9	13022.5	13035.4
10°	12920.8	12946.2	12922.8	12908.8	12909.0	12940.2
15°	12741.1	12797.0	12736.6	12711.1	12704.5	12741.7
20°	12460.0	12530.3	12458.4	12425.4	12398.5	12449.9
25°	12107.2	12167.4	12099.4	12045.4	12000.9	12050.9
30°	11627.5	11651.8	11632.0	11581.7	11436.3	11488.3
35°	10959.9	10928.7	10973.9	10992.9	10866.1	10909.7
40°	10231.8	10208.3	10243.1	10256.6	10131.9	10159.2
45°	9399.0	9382.7	9408.6	9347.2	9370.8	9363.6
50°	8486.1	8463.3	8506.2	8407.1	8476.0	8448.8
55°	7287.7	7276.8	7286.6	7407.0	7446.1	7439.0
60°	6197.0	5519.8	6237.8	6298.8	6266.5	6304.8
65°	4220.6	3968.7	4251.7	5000.2	5053.0	5126.8
70°	2714.0	2752.6	2715.8	3166.5	3794.1	3863.7
75°	1818.7	1785.0	1798.5	1801.5	2463.4	2572.8
80°	604.8	579.4	611.1	846.0	960.2	1375.5
85°	57.8	61.8	65.2	70.5	186.9	434.2
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	10.3	0.0
160°	8.1	7.2	10.8	12.4	10.6	9.3
165°	11.2	7.5	12.8	12.1	12.6	7.6
170°	16.6	12.0	14.5	15.1	13.9	10.3
175°	17.6	16.7	17.6	18.1	16.6	9.0
180°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)