

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: 236p259

Luminaire Tested: **HBL-832-N-UNV-EB82-UPL-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 236p259
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: HBL-832-N-UNV-EB82-UPL-U
Description: OPEN HIGH BAY LUMINAIRE WITH SPECULAR REFLECTOR, NARROW
DISTRIBUTION, WITH UPLIGHT
Light Source: EIGHT 32 WATT T8 - 3100 LUMENS EA
Ballast/Driver: -

Summary

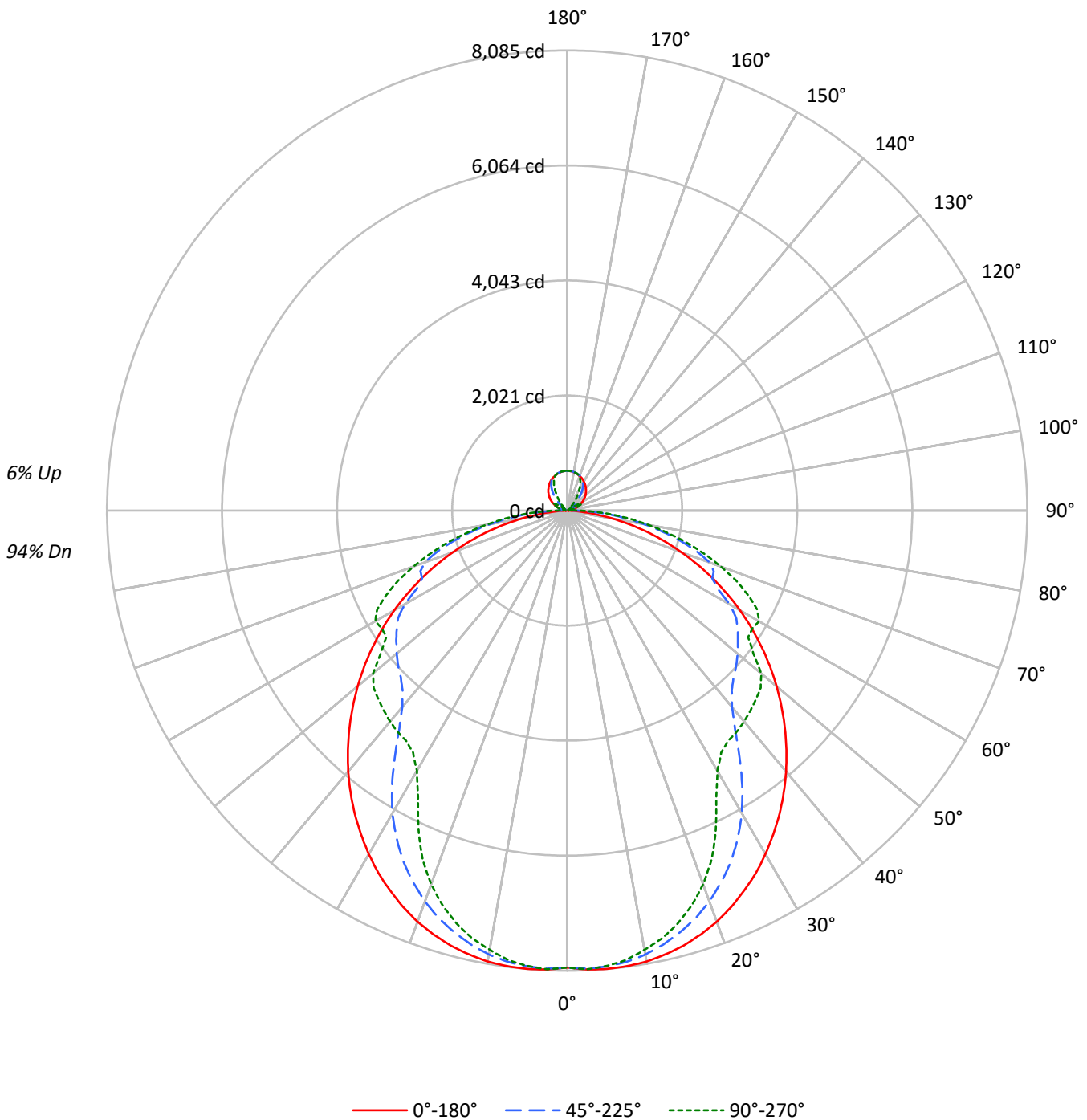
Lumens per Lamp: 3100 (8 lamps)
Luminaire Lumens: 23544.7 lumens
Efficiency: 94.9%
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.03 / 1.2
Luminous Opening: Rectangular (W 2.06' x L: 3.75' x H: 0')
CIE Type: Direct

Input Watts (W): 225
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	0
RCR																		
0	112	112	112	112	108	108	108	108	102	102	102	96	96	96	91	91	91	89
1	101	96	92	88	98	93	89	86	88	85	82	83	81	78	79	77	75	73
2	92	83	77	71	88	81	75	70	77	71	67	73	68	65	69	65	62	60
3	83	73	65	59	80	71	64	58	67	61	56	64	59	54	61	56	52	50
4	76	65	56	49	73	63	55	49	60	53	47	57	51	46	54	49	45	43
5	70	58	49	43	68	56	48	42	53	46	41	51	45	40	49	43	39	37
6	65	52	43	37	62	51	43	37	48	41	36	46	40	35	44	39	34	32
7	60	47	39	33	58	46	38	33	44	37	32	42	36	31	40	35	31	29
8	56	43	35	29	54	42	34	29	40	33	29	39	32	28	37	32	27	26
9	52	40	32	26	51	39	31	26	37	30	26	36	30	25	34	29	25	23
10	49	36	29	24	48	36	29	24	34	28	23	33	27	23	32	27	23	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11174	11174	11174
5°	11295	11232	11221
10°	11370	11194	11074
15°	11397	11049	10823
20°	11383	10819	10345
25°	11308	10451	9494
30°	11201	9867	8480
35°	11053	8964	8384
40°	10871	8184	8789
45°	10650	8140	9233
50°	10403	8463	9637
55°	10113	8873	9417
60°	9773	9171	10830
65°	9303	9257	11542
70°	8687	10811	11678
75°	7834	11104	11690
80°	6492	11012	11661
85°	4184	11209	12471



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	764.2	3.2	3.1	0°	8029	8029	8029	8029	8029	
10°-20°	2163.1	9.2	8.7	5°	8085	8061	8040	8028	8032	770
20°-30°	3106.6	13.2	12.5	15°	7910	7817	7669	7554	7512	2232
30°-40°	3458.3	14.7	13.9	25°	7364	7149	6806	6387	6183	3394
40°-50°	3586.6	15.2	14.5	35°	6506	6138	5276	4865	4935	4067
50°-60°	3341.2	14.2	13.5	45°	5411	4838	4136	4544	4691	4173
60°-70°	2901.1	12.3	11.7	55°	4168	3251	3657	3850	3881	3725
70°-80°	1991.3	8.5	8.0	65°	2825	2308	2811	3436	3505	2794
80°-90°	723.4	3.1	2.9	75°	1457	1477	2065	2155	2174	1541
90°-100°	67.6	0.3	0.3	85°	262	595	702	760	781	332
100°-110°	108.6	0.5	0.4	90°	12	63	123	164	177	19
110°-120°	166.4	0.7	0.7	95°	24	29	50	68	66	34
120°-130°	141.4	0.6	0.6	105°	133	32	146	116	87	140
130°-140°	214.5	0.9	0.9	115°	253	105	65	256	271	249
140°-150°	281.2	1.2	1.1	125°	367	287	70	25	35	328
150°-160°	274.4	1.2	1.1	135°	468	451	257	123	85	361
160°-170°	188.9	0.8	0.8	145°	553	555	475	348	305	346
170°-180°	66.1	0.3	0.3	155°	620	622	621	575	551	286
0°-30°	6033.9	25.6	24.3	165°	667	667	671	671	672	188
0°-40°	9492.1	40.3	38.3	175°	694	694	696	695	697	66
0°-60°	16419.9	69.7	66.2	180°	700	700	700	700	700	
0°-90°	22035.7	93.6	88.9							
90°-120°	342.6	1.5	1.4							
90°-150°	979.7	4.2	4.0							
90°-180°	1509.0	6.4	6.1							
0°-180°	23544.7	100.0	94.9							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8029	8029	8029	8029	8029
2.5°	8071	8059	8056	8058	8068
5°	8085	8061	8040	8028	8032
7.5°	8073	8038	7997	7967	7963
10°	8046	7985	7921	7860	7836
12.5°	7987	7916	7808	7719	7700
15°	7910	7817	7669	7554	7512
17.5°	7808	7690	7507	7334	7275
20°	7686	7534	7305	7080	6985
22.5°	7537	7348	7068	6763	6634
25°	7364	7149	6806	6387	6183
27.5°	7181	6925	6491	5919	5671
30°	6970	6686	6140	5437	5277
32.5°	6743	6422	5726	5078	5040
35°	6506	6138	5276	4865	4935
37.5°	6250	5842	4843	4765	4896
40°	5984	5529	4505	4707	4838
42.5°	5701	5195	4280	4632	4767
45°	5411	4838	4136	4544	4691
47.5°	5111	4462	4028	4457	4612
50°	4805	4053	3909	4362	4451
52.5°	4490	3640	3784	4170	4125
55°	4168	3251	3657	3850	3881
57.5°	3840	2921	3525	3630	3856
60°	3511	2676	3295	3624	3891
62.5°	3167	2485	2979	3623	3764
65°	2825	2308	2811	3436	3505
67.5°	2478	2135	2790	3171	3212
70°	2135	1961	2657	2848	2870
72.5°	1792	1745	2389	2496	2524
75°	1457	1477	2065	2155	2174
77.5°	1125	1358	1722	1792	1807
80°	810	1192	1374	1432	1455
82.5°	512	901	1028	1093	1112
85°	262	595	702	760	781
87.5°	85	299	398	454	474
90°	12	63	123	164	177
92.5°	29	46	82	97	91
95°	24	29	50	68	66
97.5°	48	59	35	45	46
100°	74	79	47	32	32
102.5°	101	68	109	42	31
105°	133	32	146	116	87
107.5°	164	26	181	170	156
110°	192	40	193	205	201



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	223	66	151	245	238
115°	253	105	65	256	271
117.5°	281	146	28	227	271
120°	310	191	31	126	224
122.5°	339	240	44	44	109
125°	367	287	70	25	35
127.5°	395	335	108	31	25
130°	420	377	156	48	31
132.5°	443	415	205	79	51
135°	468	451	257	123	85
137.5°	491	483	312	176	131
140°	511	511	366	231	187
142.5°	533	535	424	289	246
145°	553	555	475	348	305
147.5°	571	575	522	410	367
150°	587	590	559	471	431
152.5°	605	607	594	528	496
155°	620	622	621	575	551
157.5°	633	635	639	612	597
160°	645	646	651	642	634
162.5°	657	659	664	661	660
165°	667	667	671	671	672
167.5°	675	676	680	679	680
170°	683	684	686	685	687
172.5°	690	690	693	692	693
175°	694	694	696	695	697
177.5°	697	697	697	696	698
180°	700	700	700	700	700

(END OF REPORT)