

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: 236P258

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 236P258
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: HBL-832-M-UNV-EB82-UPL-U
Description: OPEN HIGH BAY LUMINAIRE WITH MATTE REFLECTOR, MEDIUM
DISTRIBUTION WITH UPLIGHT
Light Source: EIGHT 32 WATT T8 - 3100 LUMENS EA
Ballast/Driver: -

Summary

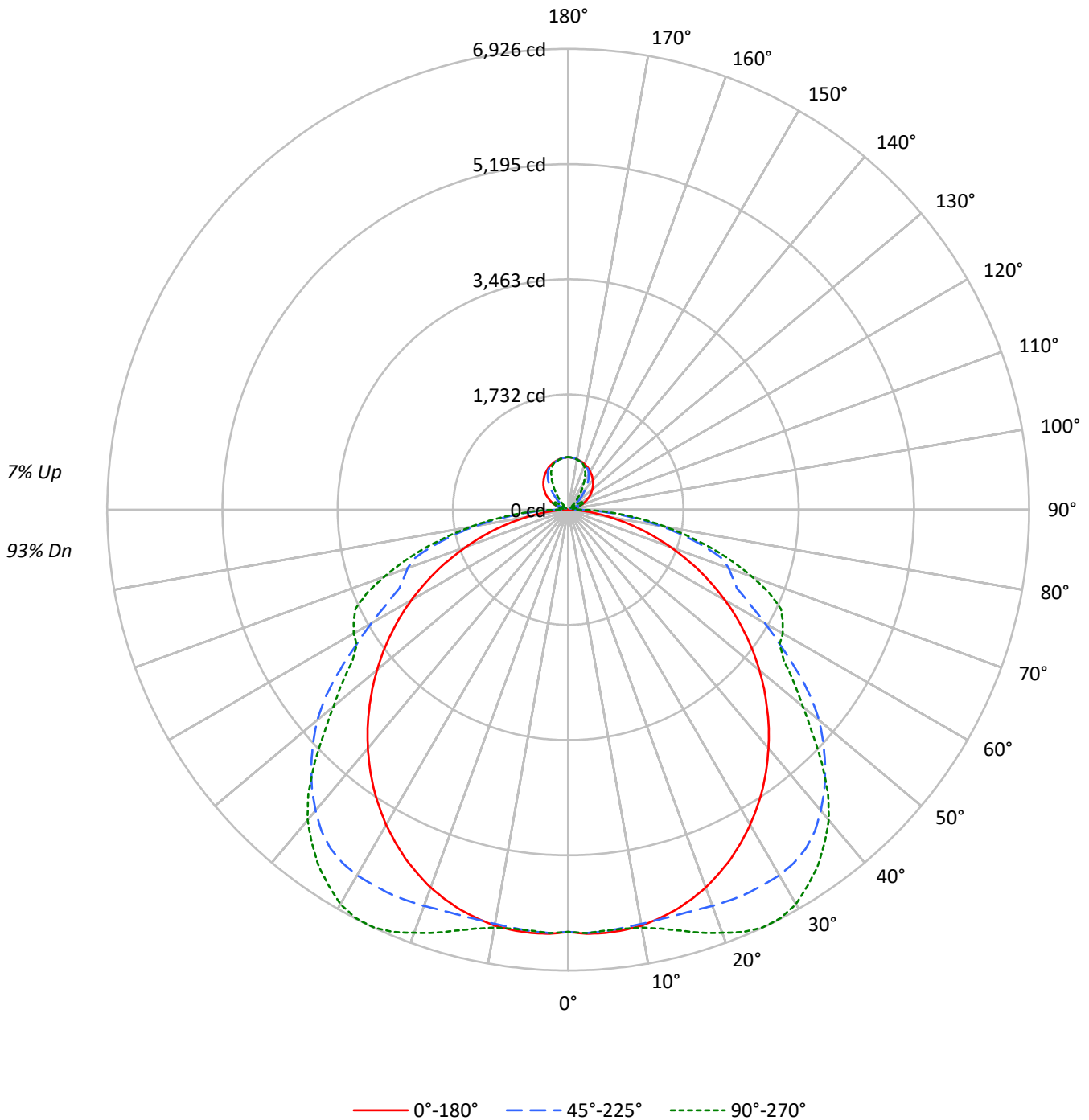
Lumens per Lamp: 3100 (8 lamps)
Luminaire Lumens: 23925.9 lumens
Efficiency: 96.5%
Efficacy: 82.8 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.53 / 1.55
Luminous Opening: Rectangular (W 2.06' x L: 3.75' x H: 0')
CIE Type: Direct

Input Watts (W): 289
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	113	113	113	113	110	110	110	110	103	103	103		98	98	98		92	92	92	90
1	102	97	93	89	99	95	91	87	89	86	83		84	82	79		80	78	76	73
2	93	84	77	71	89	82	75	70	77	72	67		73	69	65		69	66	62	60
3	84	73	65	59	81	71	64	58	67	61	56		64	58	54		61	56	52	50
4	77	65	56	49	74	63	55	48	60	53	47		57	51	46		54	49	44	42
5	70	58	49	42	68	56	48	41	53	46	40		51	44	39		48	43	38	36
6	65	52	43	36	62	50	42	36	48	41	35		46	39	34		43	38	33	31
7	60	47	38	32	58	45	37	32	43	36	31		41	35	30		39	34	29	27
8	56	42	34	28	54	41	33	28	40	32	27		38	31	27		36	30	26	24
9	52	39	31	25	50	38	30	25	36	29	24		35	28	24		33	28	24	22
10	49	36	28	23	47	35	27	23	33	27	22		32	26	22		31	25	21	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8833	8833	8833
5°	8920	8884	8871
10°	8971	8933	9015
15°	8973	9086	9439
20°	8950	9384	10022
25°	8885	9771	10635
30°	8787	10195	10998
35°	8665	10567	11104
40°	8504	10728	11064
45°	8319	10746	10602
50°	8117	10654	9964
55°	7878	10135	9589
60°	7571	9503	10363
65°	7169	9217	11618
70°	6637	10441	11935
75°	5963	11313	11986
80°	5041	11268	11934
85°	3864	11433	12742



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	606.5	2.5	2.4	0°	6347	6347	6347	6347	6347	
10°-20°	1798.8	7.5	7.3	5°	6385	6378	6359	6349	6350	608
20°-30°	2922.1	12.2	11.8	15°	6228	6201	6306	6471	6551	1757
30°-40°	3735.4	15.6	15.1	25°	5786	5840	6363	6784	6926	2664
40°-50°	3964.9	16.6	16.0	35°	5100	5403	6220	6474	6536	3188
50°-60°	3558.5	14.9	14.3	45°	4227	4867	5460	5485	5387	3261
60°-70°	2949.3	12.3	11.9	55°	3247	4100	4177	3988	3952	2900
70°-80°	1983.4	8.3	8.0	65°	2177	2938	2799	3347	3528	2153
80°-90°	729.5	3.0	2.9	75°	1109	1521	2104	2207	2229	1178
90°-100°	79.7	0.3	0.3	85°	242	606	716	778	798	278
100°-110°	125.2	0.5	0.5	90°	9	63	123	168	182	19
110°-120°	173.2	0.7	0.7	95°	23	42	61	76	76	34
120°-130°	159.1	0.7	0.6	105°	142	33	141	142	140	151
130°-140°	240.3	1.0	1.0	115°	282	118	70	253	266	278
140°-150°	311.6	1.3	1.3	125°	414	322	81	34	46	369
150°-160°	304.0	1.3	1.2	135°	527	503	289	139	98	406
160°-170°	210.4	0.9	0.8	145°	622	615	522	386	341	389
170°-180°	74.2	0.3	0.3	155°	698	693	684	634	607	321
0°-30°	5327.4	22.3	21.5	165°	751	750	746	743	745	212
0°-40°	9062.8	37.9	36.5	175°	781	781	782	781	783	74
0°-60°	16586.1	69.3	66.9	180°	789	789	789	789	789	
0°-90°	22248.3	93.0	89.7							
90°-120°	378.2	1.6	1.5							
90°-150°	1089.1	4.6	4.4							
90°-180°	1678.0	7.0	6.8							
0°-180°	23925.9	100.0	96.5							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6347	6347	6347	6347	6347
2.5°	6380	6373	6370	6362	6370
5°	6385	6378	6359	6349	6350
7.5°	6374	6354	6339	6341	6351
10°	6348	6326	6321	6353	6379
12.5°	6293	6266	6309	6397	6449
15°	6228	6201	6306	6471	6551
17.5°	6142	6129	6312	6563	6668
20°	6043	6042	6336	6642	6767
22.5°	5917	5944	6353	6721	6869
25°	5786	5840	6363	6784	6926
27.5°	5632	5741	6355	6796	6917
30°	5468	5628	6344	6748	6844
32.5°	5289	5521	6302	6640	6698
35°	5100	5403	6220	6474	6536
37.5°	4895	5283	6088	6281	6322
40°	4681	5153	5905	6065	6090
42.5°	4460	5012	5698	5809	5776
45°	4227	4867	5460	5485	5387
47.5°	3992	4709	5199	5086	4976
50°	3749	4534	4921	4684	4602
52.5°	3502	4330	4577	4314	4278
55°	3247	4100	4177	3988	3952
57.5°	2987	3832	3773	3677	3766
60°	2720	3558	3414	3509	3723
62.5°	2449	3254	3075	3463	3632
65°	2177	2938	2799	3347	3528
67.5°	1901	2577	2671	3213	3269
70°	1631	2189	2566	2897	2933
72.5°	1366	1823	2416	2558	2587
75°	1109	1521	2104	2207	2229
77.5°	862	1315	1764	1837	1847
80°	629	1181	1406	1467	1489
82.5°	419	921	1048	1113	1134
85°	242	606	716	778	798
87.5°	91	303	403	466	487
90°	9	63	123	168	182
92.5°	28	49	84	100	96
95°	23	42	61	76	76
97.5°	49	59	65	73	70
100°	78	77	94	80	77
102.5°	108	68	114	119	114
105°	142	33	141	142	140
107.5°	178	29	176	169	166
110°	212	44	190	201	194



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	248	75	151	239	232
115°	282	118	70	253	266
117.5°	315	166	35	227	269
120°	349	216	37	129	221
122.5°	383	268	53	50	114
125°	414	322	81	34	46
127.5°	443	372	124	39	32
130°	473	419	176	59	42
132.5°	500	464	231	90	62
135°	527	503	289	139	98
137.5°	552	536	346	196	148
140°	575	565	405	257	209
142.5°	599	592	465	321	275
145°	622	615	522	386	341
147.5°	642	636	573	452	408
150°	661	655	617	516	476
152.5°	679	675	655	579	543
155°	698	693	684	634	607
157.5°	712	708	704	676	658
160°	726	723	721	709	701
162.5°	740	737	734	728	727
165°	751	750	746	743	745
167.5°	760	760	756	753	754
170°	771	769	767	764	766
172.5°	777	776	776	774	775
175°	781	781	782	781	783
177.5°	786	785	786	785	787
180°	789	789	789	789	789

(END OF REPORT)