

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: 236P232

Luminaire Tested: **HBL-632-W-UNV-EB82-UPL-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 236P232
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: HBL-632-W-UNV-EB82-UPL-U
Description: OPEN HIGH BAY LUMINAIRE WITH WHITE REFLECTOR, WIDE
DISTRIBUTION, WITH UPLIGHT
Light Source: SIX 32 WATT T8 - 3100 LUMENS EA
Ballast/Driver: -

Summary

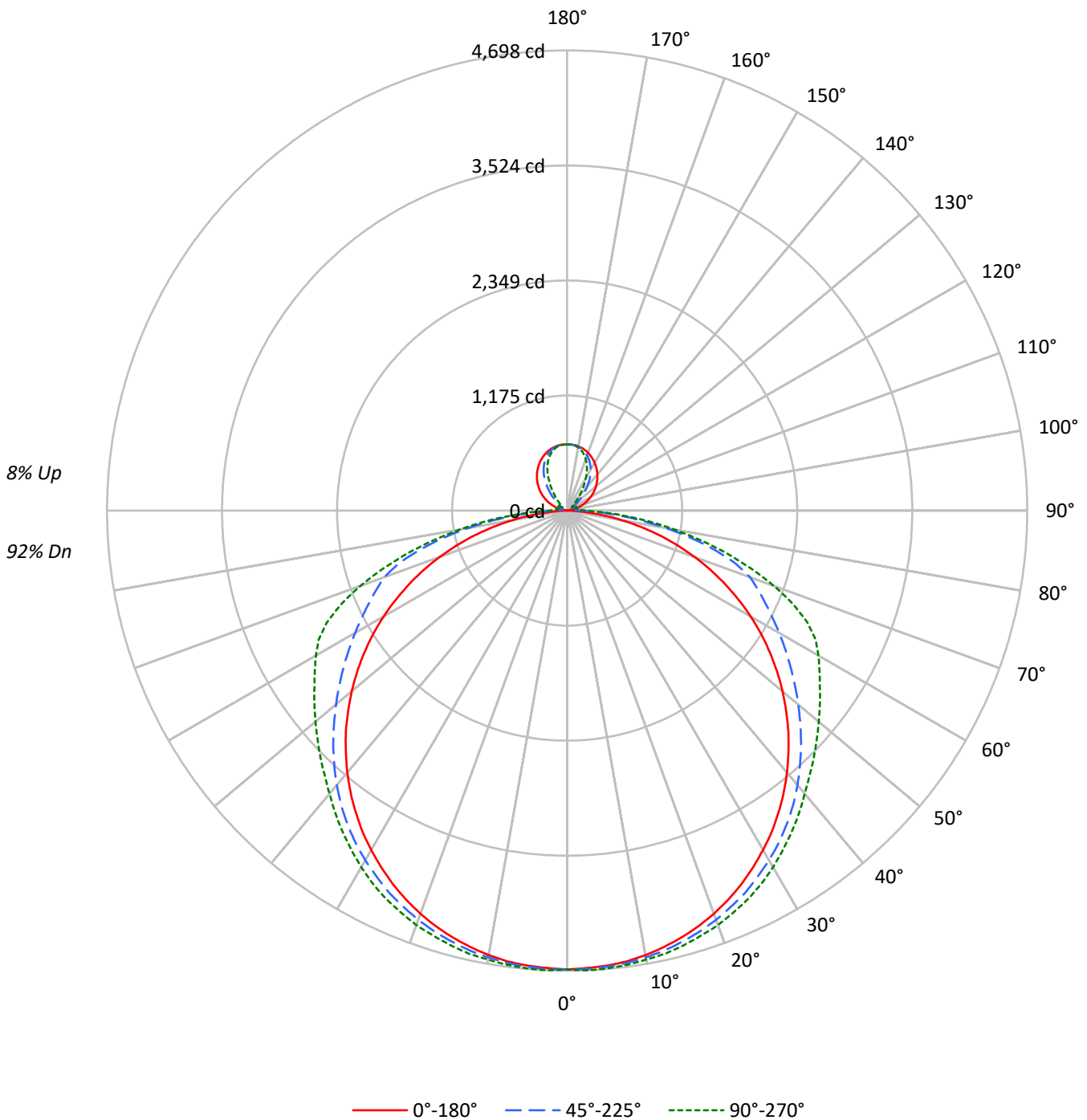
Lumens per Lamp: 3100 (6 lamps)
Luminaire Lumens: 16833.0 lumens
Efficiency: 90.5%
Efficacy: 76.2 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.33 / 1.43
Luminous Opening: Rectangular (W 1.64' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 221
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	106	106	106	106	103	103	103	103	97	97	97	91	91	91	86	86	86	83
1	96	91	87	83	92	88	84	81	83	80	77	78	76	73	74	72	70	68
2	86	78	72	66	83	76	70	65	72	67	62	68	63	60	64	60	57	55
3	78	68	60	54	75	66	59	53	62	56	51	59	54	50	56	51	48	45
4	71	60	52	45	69	58	51	45	55	49	43	52	46	42	49	45	41	38
5	65	53	45	39	63	52	44	38	49	42	37	47	41	36	44	39	35	33
6	60	48	39	34	58	47	39	33	44	37	32	42	36	31	40	35	31	28
7	56	43	35	29	54	42	34	29	40	33	28	38	32	28	36	31	27	25
8	52	39	31	26	50	38	31	26	37	30	25	35	29	25	33	28	24	22
9	48	36	28	23	47	35	28	23	34	27	23	32	26	22	31	25	22	20
10	45	33	26	21	44	32	25	21	31	25	20	30	24	20	28	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7709	7709	7709
5°	7702	7720	7750
10°	7699	7738	7776
15°	7686	7759	7826
20°	7670	7785	7885
25°	7642	7812	7941
30°	7600	7830	7986
35°	7557	7852	8035
40°	7501	7857	8106
45°	7435	7858	8289
50°	7347	7887	8586
55°	7249	7989	9037
60°	7125	8227	9748
65°	6934	8682	10540
70°	6658	9550	10805
75°	6199	9975	10712
80°	5392	9713	10490
85°	3776	9440	10686



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	444.7	2.6	2.4	0°	4685	4685	4685	4685	4685	
10°-20°	1286.0	7.6	6.9	5°	4663	4667	4674	4681	4692	443
20°-30°	1980.1	11.8	10.6	15°	4512	4524	4555	4575	4594	1274
30°-40°	2436.7	14.5	13.1	25°	4209	4237	4303	4352	4374	1940
40°-50°	2610.4	15.5	14.0	35°	3762	3811	3909	3975	4000	2354
50°-60°	2524.1	15.0	13.6	45°	3195	3268	3377	3500	3562	2463
60°-70°	2200.4	13.1	11.8	55°	2527	2611	2785	3044	3150	2258
70°-80°	1497.6	8.9	8.1	65°	1781	1846	2230	2613	2707	1761
80°-90°	524.2	3.1	2.8	75°	975	1139	1569	1659	1685	1029
90°-100°	79.9	0.5	0.4	85°	200	403	500	551	566	242
100°-110°	77.3	0.5	0.4	90°	3	45	111	159	177	11
110°-120°	100.0	0.6	0.5	95°	19	27	67	107	119	23
120°-130°	132.8	0.8	0.7	105°	106	29	68	87	96	114
130°-140°	197.8	1.2	1.1	115°	220	96	47	97	112	217
140°-150°	250.7	1.5	1.3	125°	331	235	92	60	61	295
150°-160°	248.1	1.5	1.3	135°	433	377	229	140	118	334
160°-170°	178.1	1.1	1.0	145°	522	495	403	311	281	327
170°-180°	63.8	0.4	0.3	155°	597	587	545	499	479	275
0°-30°	3710.9	22.0	20.0	165°	650	647	637	620	615	183
0°-40°	6147.6	36.5	33.1	175°	674	672	673	671	672	64
0°-60°	11282.1	67.0	60.7	180°	675	675	675	675	675	
0°-90°	15504.4	92.1	83.4							
90°-120°	257.3	1.5	1.4							
90°-150°	838.6	5.0	4.5							
90°-180°	1329.0	7.9	7.1							
0°-180°	16833.0	100.0	90.5							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4685	4685	4685	4685	4685
2.5°	4674	4675	4685	4683	4698
5°	4663	4667	4674	4681	4692
7.5°	4643	4643	4659	4661	4679
10°	4608	4611	4631	4643	4654
12.5°	4564	4574	4600	4616	4634
15°	4512	4524	4555	4575	4594
17.5°	4451	4468	4506	4533	4550
20°	4380	4399	4446	4477	4503
22.5°	4299	4326	4376	4420	4440
25°	4209	4237	4303	4352	4374
27.5°	4108	4142	4214	4268	4295
30°	4000	4039	4121	4179	4203
32.5°	3889	3929	4022	4077	4104
35°	3762	3811	3909	3975	4000
37.5°	3632	3687	3790	3857	3890
40°	3492	3552	3658	3739	3774
42.5°	3345	3412	3520	3618	3665
45°	3195	3268	3377	3500	3562
47.5°	3034	3112	3228	3386	3457
50°	2870	2954	3081	3269	3354
52.5°	2702	2787	2931	3155	3253
55°	2527	2611	2785	3044	3150
57.5°	2349	2427	2641	2931	3055
60°	2165	2236	2500	2831	2962
62.5°	1975	2043	2361	2732	2860
65°	1781	1846	2230	2613	2707
67.5°	1585	1655	2109	2437	2500
70°	1384	1470	1985	2211	2246
72.5°	1181	1295	1806	1939	1967
75°	975	1139	1569	1659	1685
77.5°	769	1003	1300	1370	1392
80°	569	852	1025	1084	1107
82.5°	376	637	753	812	833
85°	200	403	500	551	566
87.5°	61	192	264	309	326
90°	3	45	111	159	177
92.5°	10	30	84	127	138
95°	19	27	67	107	119
97.5°	33	30	65	90	101
100°	56	35	58	91	104
102.5°	82	32	62	82	93
105°	106	29	68	87	96
107.5°	136	37	76	89	95
110°	163	49	71	95	99



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	191	70	58	100	105
115°	220	96	47	97	112
117.5°	248	127	48	80	101
120°	276	162	56	64	81
122.5°	303	198	70	57	64
125°	331	235	92	60	61
127.5°	357	273	119	70	64
130°	383	309	150	86	74
132.5°	408	344	188	111	92
135°	433	377	229	140	118
137.5°	457	409	273	176	151
140°	480	439	315	218	188
142.5°	502	467	359	263	231
145°	522	495	403	311	281
147.5°	543	520	444	361	330
150°	562	544	481	409	380
152.5°	580	566	514	457	432
155°	597	587	545	499	479
157.5°	613	605	571	535	520
160°	627	621	596	568	556
162.5°	640	636	619	596	587
165°	650	647	637	620	615
167.5°	659	657	651	640	636
170°	666	664	661	655	653
172.5°	672	670	669	665	666
175°	674	672	673	671	672
177.5°	675	674	675	674	675
180°	675	675	675	675	675

(END OF REPORT)