

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: ITL63245

Luminaire Tested: **HBI-432-N-UNV-EB82/PLUS-UPL-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: ITL63245
Test Lab: INDEPENDENT TESTING LABORATORIES, INC.
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: HBI-432-N-UNV-EB82/PLUS-UPL-U
Description: HBI SERIES, FULL BODY STEEL HOUSING, WITH FOUR T8 LAMPS
NARROW DISTRIBUTION SPECULAR REFLECTOR WITH UPLIGHT
Light Source: FOUR T8 LINEAR FLUORESCENT LAMPS, F32T8 32W - 3100 LUMENS EA
Ballast/Driver: -

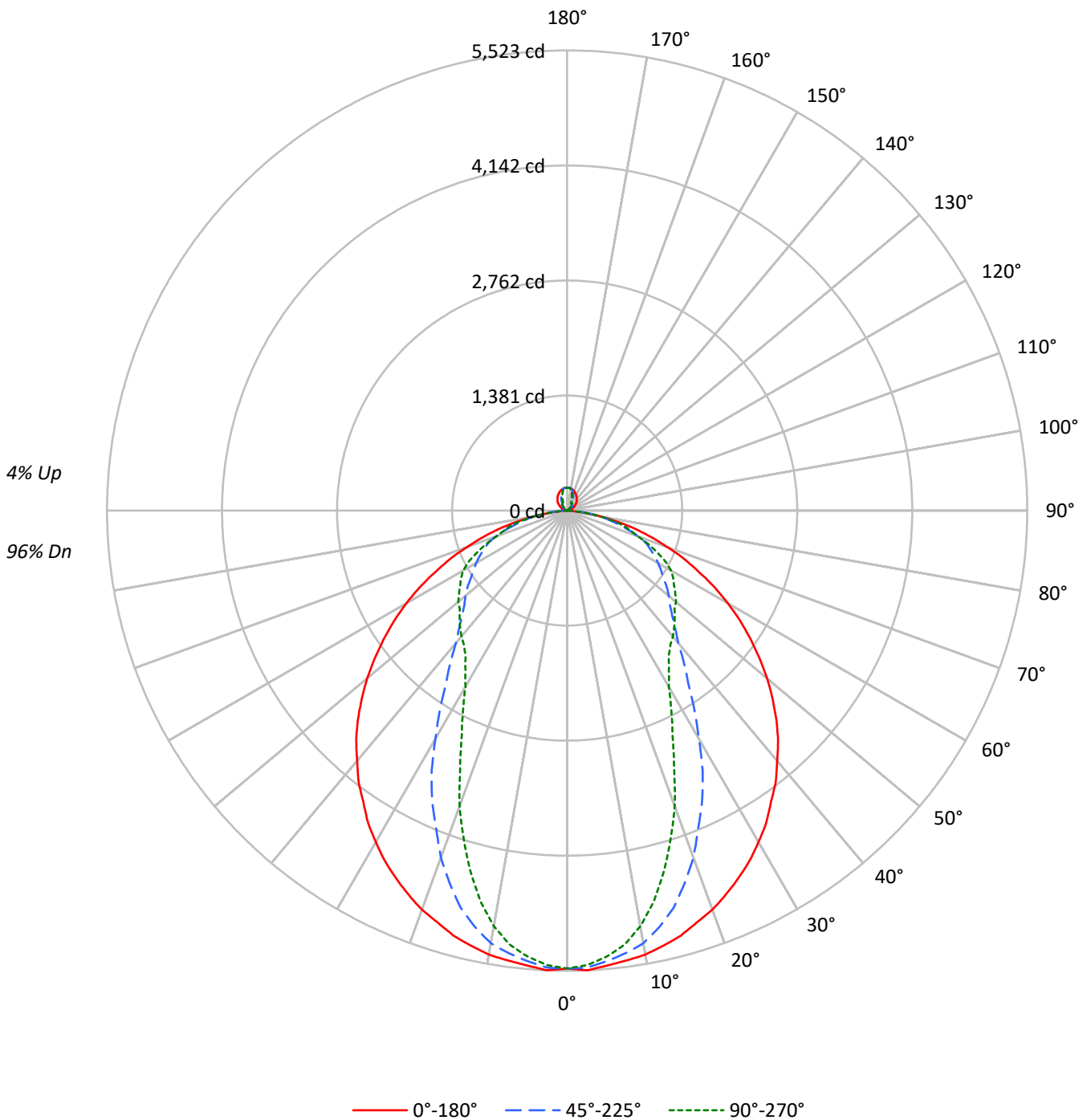
Summary

Lumens per Lamp: 3100 (4 lamps)
Luminaire Lumens: 11124.2 lumens
Efficiency: 89.7%
Efficacy: 73.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 0.81 / 0.99
Luminous Opening: Rectangular (W 1.3' x L: 3.99' x H: 0')
CIE Type: Direct

Input Watts (W): 151.9
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	98	98	98		93	93	93		89	89	89	86
1	97	93	90	86	95	91	88	85	87	84	81		83	80	78		79	77	75	73
2	89	82	76	71	86	80	75	70	76	72	68		73	69	66		70	67	64	62
3	82	73	66	60	79	71	65	60	68	63	58		65	60	57		62	59	55	53
4	75	65	58	52	73	64	57	51	61	55	50		59	53	49		56	52	48	46
5	70	59	51	45	67	57	50	45	55	49	44		53	48	43		51	46	43	41
6	65	53	46	40	63	52	45	40	50	44	39		48	43	39		47	42	38	36
7	60	49	41	36	58	48	41	36	46	40	35		44	39	35		43	38	34	32
8	56	45	37	32	55	44	37	32	42	36	32		41	35	31		40	35	31	29
9	53	41	34	29	51	41	34	29	39	33	29		38	33	29		37	32	28	27
10	50	38	31	27	48	38	31	27	37	31	27		36	30	26		35	30	26	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11386	11386	11386
5°	11400	11292	11182
10°	11385	11092	10651
15°	11324	10589	9615
20°	11239	9766	8324
25°	11125	8768	6841
30°	10989	7561	5838
35°	10788	6410	5375
40°	10609	5607	5334
45°	10409	5225	5348
50°	10096	5138	5499
55°	9700	5090	5657
60°	9241	5230	5968
65°	8570	5398	5864
70°	7749	5525	5465
75°	6717	5092	5596
80°	5000	4916	4678
85°	2163	3400	2330



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	512.9	4.6	4.1	0°	5495	5495	5495	5495	5495	
10°-20°	1372.8	12.3	11.1	5°	5481	5467	5429	5394	5376	521
20°-30°	1789.6	16.1	14.4	15°	5279	5202	4936	4614	4482	1488
30°-40°	1827.3	16.4	14.7	25°	4866	4611	3835	3185	2992	2242
40°-50°	1714.0	15.4	13.8	35°	4265	3719	2534	2195	2125	2674
50°-60°	1478.4	13.3	11.9	45°	3552	2590	1783	1814	1825	2735
60°-70°	1160.0	10.4	9.4	55°	2685	1507	1409	1535	1566	2400
70°-80°	694.0	6.2	5.6	65°	1748	926	1101	1206	1196	1736
80°-90°	164.5	1.5	1.3	75°	839	563	636	682	699	885
90°-100°	4.7	0.0	0.0	85°	91	133	143	129	98	145
100°-110°	12.3	0.1	0.1	90°	0	1	0	2	0	3
110°-120°	26.0	0.2	0.2	95°	5	4	4	3	3	9
120°-130°	42.4	0.4	0.3	105°	41	10	6	6	4	43
130°-140°	71.7	0.6	0.6	115°	80	43	11	9	8	79
140°-150°	79.7	0.7	0.6	125°	120	56	41	17	15	108
150°-160°	80.8	0.7	0.7	135°	164	103	83	75	60	126
160°-170°	67.3	0.6	0.5	145°	200	163	97	94	102	125
170°-180°	25.8	0.2	0.2	155°	231	221	168	136	120	107
0°-30°	3675.3	33.0	29.6	165°	259	258	246	224	217	73
0°-40°	5502.6	49.5	44.4	175°	275	274	274	273	272	26
0°-60°	8695.1	78.2	70.1	180°	274	274	274	274	274	
0°-90°	10713.5	96.3	86.4							
90°-120°	43.0	0.4	0.3							
90°-150°	236.8	2.1	1.9							
90°-180°	411.0	3.7	3.3							
0°-180°	11124.2	100.0	89.7							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5495	5495	5495	5495	5495
2.5°	5523	5509	5492	5464	5460
5°	5481	5467	5429	5394	5376
7.5°	5446	5422	5359	5286	5258
10°	5411	5373	5272	5135	5062
12.5°	5348	5289	5118	4894	4803
15°	5279	5202	4936	4614	4482
17.5°	5181	5100	4688	4303	4132
20°	5097	4957	4429	3950	3775
22.5°	4985	4800	4114	3594	3356
25°	4866	4611	3835	3185	2992
27.5°	4740	4419	3520	2863	2706
30°	4593	4188	3160	2573	2440
32.5°	4447	3957	2842	2353	2272
35°	4265	3719	2534	2195	2125
37.5°	4111	3429	2304	2045	2035
40°	3922	3178	2073	1951	1972
42.5°	3747	2874	1919	1888	1902
45°	3552	2590	1783	1814	1825
47.5°	3342	2311	1671	1730	1748
50°	3132	2000	1594	1657	1706
52.5°	2908	1744	1507	1598	1636
55°	2685	1507	1409	1535	1566
57.5°	2461	1314	1335	1454	1510
60°	2230	1157	1262	1391	1440
62.5°	1993	1021	1185	1321	1335
65°	1748	926	1101	1206	1196
67.5°	1524	825	1031	1063	1056
70°	1279	727	912	912	902
72.5°	1056	640	776	776	790
75°	839	563	636	682	699
77.5°	615	479	510	577	552
80°	419	360	412	402	392
82.5°	224	241	259	273	252
85°	91	133	143	129	98
87.5°	21	38	28	28	28
90°	0	1	0	2	0
92.5°	1	4	4	3	2
95°	5	4	4	3	3
97.5°	15	5	6	5	4
100°	22	6	6	5	3
102.5°	30	9	6	5	4
105°	41	10	6	6	4
107.5°	52	15	7	6	4
110°	62	22	9	6	4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	71	34	11	8	5
115°	80	43	11	9	8
117.5°	89	47	13	12	10
120°	99	46	17	13	12
122.5°	109	49	28	14	15
125°	120	56	41	17	15
127.5°	132	64	61	22	17
130°	143	77	78	39	25
132.5°	153	90	85	55	42
135°	164	103	83	75	60
137.5°	172	119	80	98	80
140°	181	133	78	103	104
142.5°	190	150	85	100	109
145°	200	163	97	94	102
147.5°	207	178	113	91	94
150°	216	192	132	100	94
152.5°	225	208	152	116	104
155°	231	221	168	136	120
157.5°	238	233	189	158	146
160°	247	245	209	183	171
162.5°	254	252	228	203	194
165°	259	258	246	224	217
167.5°	261	263	257	245	236
170°	269	268	267	263	260
172.5°	272	272	272	270	268
175°	275	274	274	273	272
177.5°	274	273	273	271	271
180°	274	274	274	274	274

(END OF REPORT)