

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: P30403

Luminaire Tested: **HBI632-M-UNV-EB82/PLUS**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P30403
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: HBI632-M-UNV-EB82/PLUS
Description: HBI SERIES, FULL BODY STEEL HOUSING, WITH SIX T8 LAMPS,
MEDIUM DISTRIBUTION MICRO-MATTE REFLECTOR, NO UPLIGHT
Light Source: SIX T8 LINEAR FLUORESCENT LAMPS, F32T8 32W - 3100 LUMENS EA
Ballast/Driver: (2) GE ELECTRONIC BALLAST
GE432MAX-H-ULTRA, GE232MAX-H-ULTRA

Summary

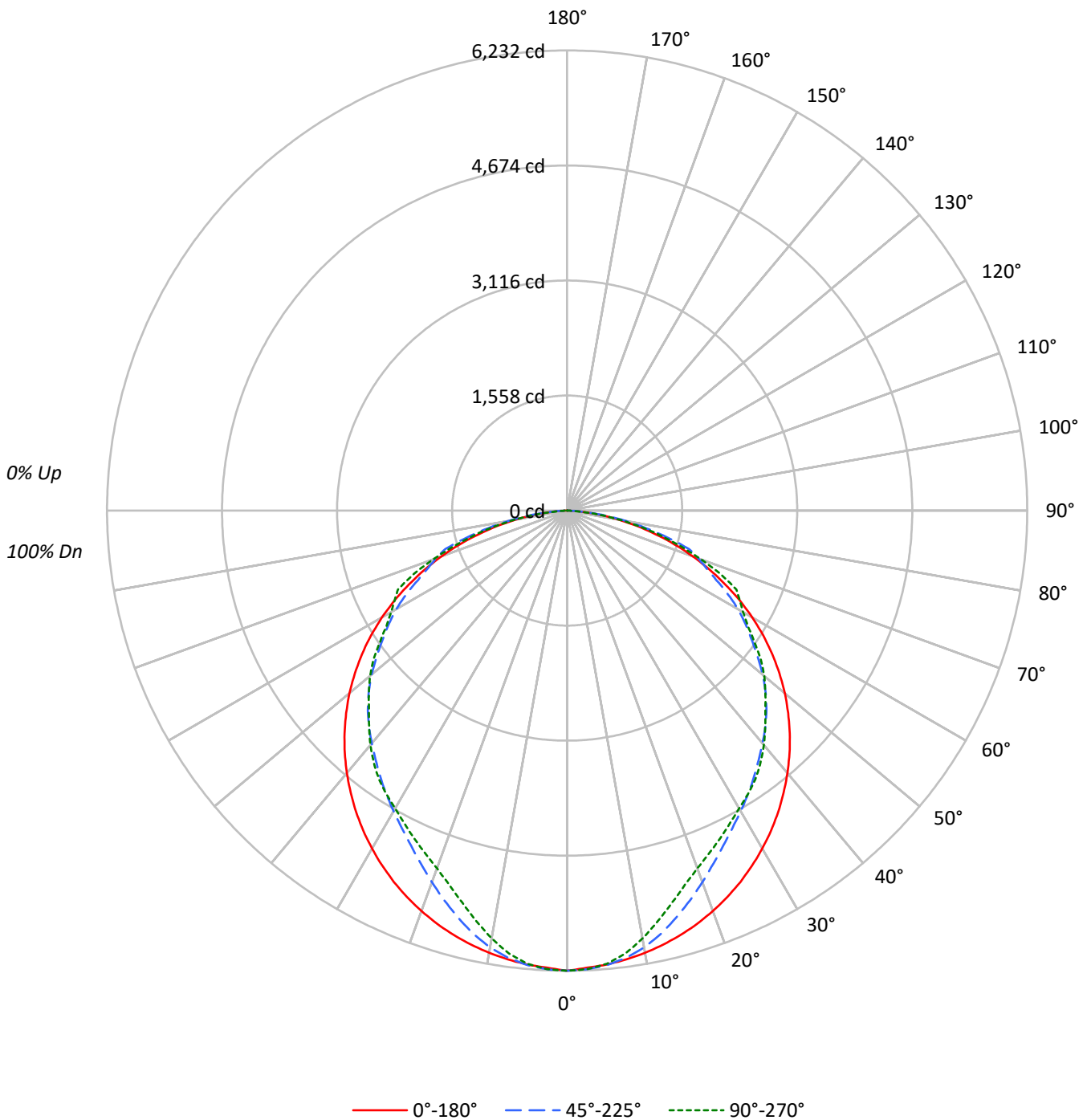
Lumens per Lamp: 3100 (6 lamps)
Luminaire Lumens: 17169.6 lumens
Efficiency: 92.3%
Efficacy: 7.8 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.12 / 1.31
Luminous Opening: Rectangular (W 1.33' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 2196.8
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	110	110	110	110	107	107	107	107	103	103	103	98	98	98	94	94	94	92
1	100	95	91	88	98	93	90	86	89	86	84	86	83	81	82	80	79	77
2	91	83	76	71	88	81	75	70	78	73	68	75	70	67	72	68	65	63
3	82	72	65	59	80	71	64	58	68	62	57	66	60	56	63	59	55	53
4	75	64	56	49	73	63	55	49	60	54	48	58	52	48	56	51	47	45
5	69	57	49	42	67	56	48	42	54	47	42	52	46	41	51	45	41	39
6	64	51	43	37	62	51	43	37	49	42	36	47	41	36	46	40	36	34
7	59	47	38	33	58	46	38	32	44	37	32	43	37	32	42	36	32	30
8	55	42	35	29	54	42	34	29	41	34	29	39	33	29	38	33	28	27
9	52	39	31	26	50	38	31	26	37	31	26	36	30	26	35	30	26	24
10	48	36	29	24	47	36	28	24	35	28	24	34	28	23	33	27	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12578	12578	12578
5°	12504	12518	12482
10°	12462	12313	12056
15°	12430	11924	11481
20°	12395	11499	11072
25°	12359	11146	10912
30°	12316	10953	10853
35°	12277	10865	10947
40°	12227	10844	10923
45°	12173	10897	10837
50°	12085	10854	10945
55°	11935	10736	10880
60°	11694	10794	11100
65°	11275	10649	12068
70°	10657	11147	11365
75°	9708	10925	10262
80°	8217	9298	8484
85°	5511	6137	4492



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	583.5	3.4	3.1	0°	6232	6232	6232	6232	6232	
10°-20°	1610.9	9.4	8.7	5°	6172	6176	6179	6163	6161	586
20°-30°	2362.0	13.8	12.7	15°	5949	5895	5707	5547	5495	1679
30°-40°	2839.4	16.5	15.3	25°	5550	5338	5005	4914	4900	2559
40°-50°	2988.5	17.4	16.1	35°	4983	4603	4410	4426	4443	3118
50°-60°	2783.9	16.2	15.0	45°	4265	3831	3818	3804	3797	3288
60°-70°	2281.9	13.3	12.3	55°	3392	3047	3051	3107	3092	3028
70°-80°	1388.1	8.1	7.5	65°	2361	2172	2230	2434	2527	2333
80°-90°	330.6	1.9	1.8	75°	1245	1226	1401	1341	1316	1318
90°-100°	0.8	0.0	0.0	85°	238	309	265	221	194	295
100°-110°	0.0	0.0	0.0	90°	6	7	5	6	4	11
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°	0.0	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	0.0	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	4556.4	26.5	24.5	165°	0	0	0	0	0	0
0°-40°	7395.8	43.1	39.8	175°	0	0	0	0	0	0
0°-60°	13168.2	76.7	70.8	180°	0	0	0	0	0	0
0°-90°	17168.8	100.0	92.3							
90°-120°	0.8	0.0	0.0							
90°-150°	0.8	0.0	0.0							
90°-180°	1.0	0.0	0.0							
0°-180°	17169.6	100.0	92.3							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6232	6232	6232	6232	6232
2.5°	6196	6206	6218	6215	6217
5°	6172	6176	6179	6163	6161
7.5°	6132	6132	6109	6067	6050
10°	6081	6069	6008	5917	5883
12.5°	6020	5990	5870	5736	5691
15°	5949	5895	5707	5547	5495
17.5°	5866	5782	5534	5360	5311
20°	5771	5649	5354	5189	5155
22.5°	5666	5500	5175	5043	5024
25°	5550	5338	5005	4914	4900
27.5°	5423	5164	4847	4787	4774
30°	5285	4981	4700	4656	4657
32.5°	5140	4794	4556	4539	4556
35°	4983	4603	4410	4426	4443
37.5°	4816	4408	4259	4301	4303
40°	4641	4214	4116	4151	4146
42.5°	4457	4021	3973	3988	3969
45°	4265	3831	3818	3804	3797
47.5°	4059	3642	3644	3626	3641
50°	3849	3449	3457	3466	3486
52.5°	3624	3250	3251	3298	3303
55°	3392	3047	3051	3107	3092
57.5°	3149	2843	2865	2894	2898
60°	2897	2634	2674	2702	2750
62.5°	2633	2410	2455	2553	2635
65°	2361	2172	2230	2434	2527
67.5°	2084	1923	2039	2289	2250
70°	1806	1682	1889	1965	1926
72.5°	1525	1459	1728	1646	1614
75°	1245	1226	1401	1341	1316
77.5°	972	1010	1087	1051	1027
80°	707	837	800	760	730
82.5°	462	562	523	477	455
85°	238	309	265	221	194
87.5°	66	96	57	52	50
90°	6	7	5	6	4
92.5°	0	0	0	0	0
95°	0	0	0	0	0
97.5°	0	0	0	0	0
100°	0	0	0	0	0
102.5°	0	0	0	0	0
105°	0	0	0	0	0
107.5°	0	0	0	0	0
110°	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0	0	0	0	0
115°	0	0	0	0	0
117.5°	0	0	0	0	0
120°	0	0	0	0	0
122.5°	0	0	0	0	0
125°	0	0	0	0	0
127.5°	0	0	0	0	0
130°	0	0	0	0	0
132.5°	0	0	0	0	0
135°	0	0	0	0	0
137.5°	0	0	0	0	0
140°	0	0	0	0	0
142.5°	0	0	0	0	0
145°	0	0	0	0	0
147.5°	0	0	0	0	0
150°	0	0	0	0	0
152.5°	0	0	0	0	0
155°	0	0	0	0	0
157.5°	0	0	0	0	0
160°	0	0	0	0	0
162.5°	0	0	0	0	0
165°	0	0	0	0	0
167.5°	0	0	0	0	0
170°	0	0	0	0	0
172.5°	0	0	0	0	0
175°	0	0	0	0	0
177.5°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)