

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: ITL63237

Luminaire Tested: **HBI-632-M-UNV-EB82/PLUS-UPL-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: ITL63237  
Test Lab: INDEPENDENT TESTING LABORATORIES, INC.  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: HBI-632-M-UNV-EB82/PLUS-UPL-U  
Description: HBI SERIES, FULL BODY STEEL HOUSING, WITH SIX T8 LAMPS  
MEDIUM DISTRIBUTION MATTE REFLECTOR WITH UPLIGHT  
Light Source: SIX T8 LINEAR FLUORESCENT LAMPS, F32T8 32W - 3100 LUMENS EA  
Ballast/Driver: -

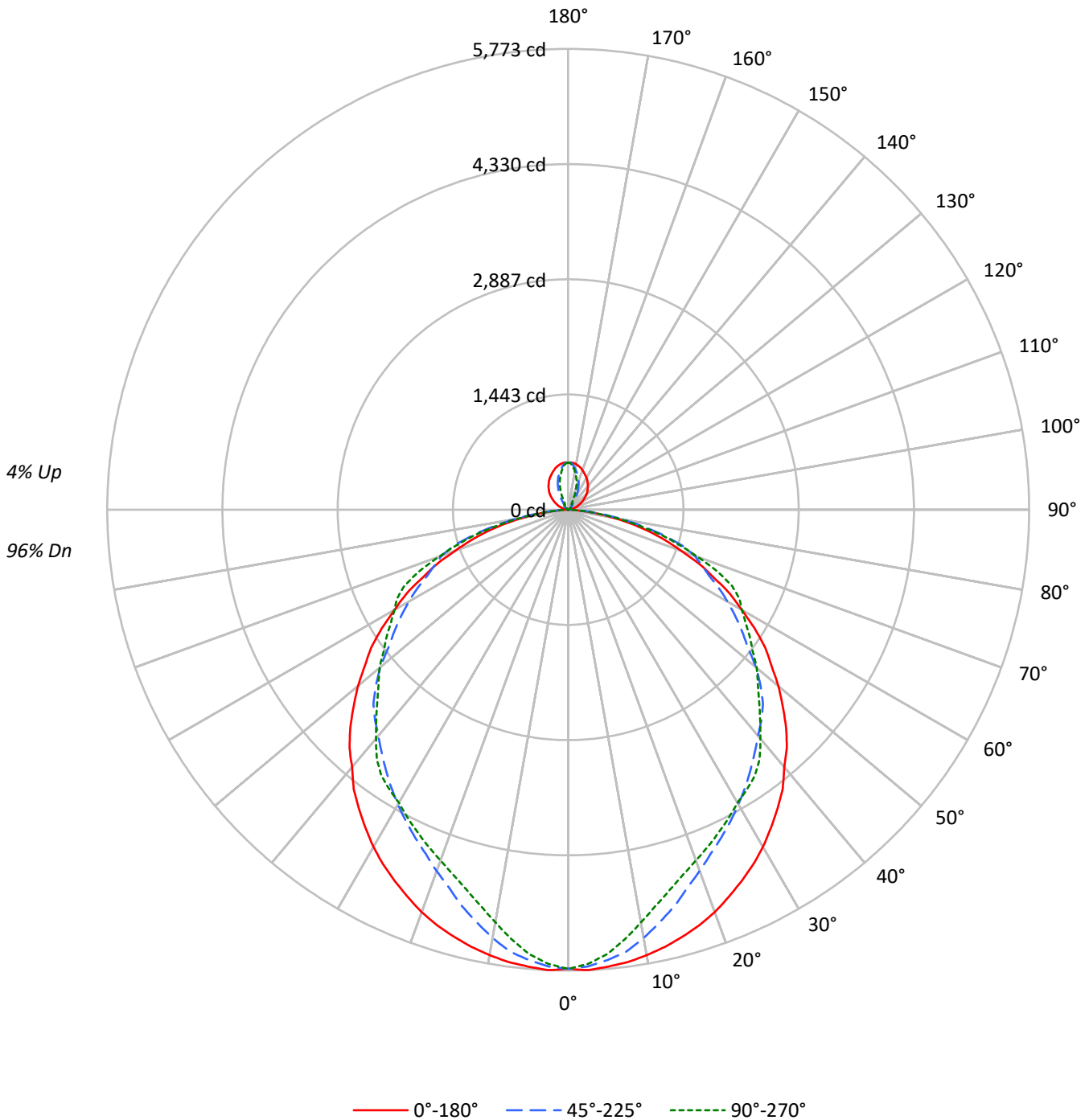
**Summary**

Lumens per Lamp: 3100 (6 lamps)  
Luminaire Lumens: 15998.1 lumens  
Efficiency: 86.0%  
Efficacy: 74.4 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.1 / 1.29  
Luminous Opening: Rectangular (W 1.3' x L: 3.99' x H: 0')  
CIE Type: Direct

Input Watts (W): 215  
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

TEST NUMBER: ITL63237  
CATALOG NUMBER: HBI-632-M-UNV-EB82/PLUS-UPL-U

### Luminous Intensity Polar Plot





TEST NUMBER: ITL63237

CATALOG NUMBER: HBI-632-M-UNV-EB82/PLUS-UPL-U

**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	102	102	102	102	99	99	99	99	94	94	94		89	89	89		84	84	84	82
1	93	88	85	81	90	86	83	80	82	79	76		78	76	73		74	72	71	69
2	84	77	71	66	81	75	69	65	71	67	63		68	64	61		65	62	59	57
3	76	67	60	55	74	66	59	54	63	57	52		60	55	51		57	53	50	48
4	70	59	52	46	68	58	51	46	55	49	45		53	48	44		51	46	43	41
5	64	53	45	40	62	52	45	39	50	43	38		48	42	38		46	41	37	35
6	59	48	40	34	57	47	39	34	45	38	34		43	37	33		41	36	32	31
7	55	43	36	30	53	42	35	30	41	34	30		39	34	29		38	33	29	27
8	51	39	32	27	50	39	32	27	37	31	27		36	30	26		35	30	26	24
9	48	36	29	24	46	36	29	24	34	28	24		33	28	24		32	27	23	22
10	45	33	27	22	44	33	26	22	32	26	22		31	25	21		30	25	21	20

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11916	11916	11916
5°	11950	11777	11621
10°	11921	11461	11046
15°	11878	11030	10569
20°	11830	10620	10311
25°	11740	10364	10199
30°	11669	10202	10142
35°	11557	10068	10305
40°	11388	10000	10127
45°	11308	10110	9899
50°	11073	9896	9941
55°	10881	9599	10028
60°	10402	9556	10402
65°	9845	9512	11110
70°	9124	10190	10426
75°	8326	9879	9471
80°	6766	8126	7529
85°	4089	4779	3756



TEST NUMBER: ITL63237

CATALOG NUMBER: HBI-632-M-UNV-EB82/PLUS-UPL-U

**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	534.4	3.3	2.9	0°	5751	5751	5751	5751	5751	
10°-20°	1463.3	9.1	7.9	5°	5745	5727	5662	5619	5587	546
20°-30°	2147.8	13.4	11.5	15°	5537	5415	5142	4970	4927	1563
30°-40°	2575.2	16.1	13.8	25°	5135	4820	4533	4468	4461	2368
40°-50°	2677.2	16.7	14.4	35°	4569	4138	3980	4038	4074	2858
50°-60°	2451.6	15.3	13.2	45°	3859	3421	3450	3392	3378	2969
60°-70°	2006.7	12.5	10.8	55°	3012	2668	2657	2754	2776	2674
70°-80°	1208.0	7.6	6.5	65°	2008	1865	1940	2209	2266	1999
80°-90°	270.8	1.7	1.5	75°	1040	1033	1234	1212	1183	1096
90°-100°	6.7	0.0	0.0	85°	172	226	201	165	158	226
100°-110°	20.2	0.1	0.1	90°	0	1	0	3	1	7
110°-120°	39.7	0.2	0.2	95°	9	4	5	5	4	17
120°-130°	60.3	0.4	0.3	105°	75	14	10	8	6	82
130°-140°	93.4	0.6	0.5	115°	156	29	20	22	19	156
140°-150°	117.9	0.7	0.6	125°	248	55	33	32	27	223
150°-160°	142.8	0.9	0.8	135°	341	172	68	54	44	263
160°-170°	129.0	0.8	0.7	145°	423	297	122	80	82	264
170°-180°	53.2	0.3	0.3	155°	491	405	297	218	175	227
0°-30°	4145.5	25.9	22.3	165°	556	508	451	415	396	156
0°-40°	6720.7	42.0	36.1	175°	591	586	575	564	559	56
0°-60°	11849.4	74.1	63.7	180°	589	589	589	589	589	
0°-90°	15334.9	95.9	82.4							
90°-120°	66.6	0.4	0.4							
90°-150°	338.1	2.1	1.8							
90°-180°	663.0	4.1	3.6							
0°-180°	15998.1	100.0	86.0							



TEST NUMBER: ITL63237

CATALOG NUMBER: HBI-632-M-UNV-EB82/PLUS-UPL-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5751	5751	5751	5751	5751
2.5°	5773	5756	5727	5695	5695
5°	5745	5727	5662	5619	5587
7.5°	5716	5677	5583	5479	5429
10°	5666	5612	5447	5307	5250
12.5°	5608	5522	5293	5128	5078
15°	5537	5415	5142	4970	4927
17.5°	5458	5300	4963	4841	4791
20°	5365	5153	4816	4698	4676
22.5°	5250	4999	4665	4586	4569
25°	5135	4820	4533	4468	4461
27.5°	5013	4665	4400	4357	4353
30°	4877	4479	4264	4231	4239
32.5°	4726	4314	4124	4127	4160
35°	4569	4138	3980	4038	4074
37.5°	4411	3952	3837	3923	3937
40°	4210	3790	3697	3794	3744
42.5°	4052	3597	3579	3597	3557
45°	3859	3421	3450	3392	3378
47.5°	3643	3252	3267	3213	3220
50°	3435	3048	3070	3048	3084
52.5°	3206	2858	2837	2908	2912
55°	3012	2668	2657	2754	2776
57.5°	2768	2467	2482	2571	2632
60°	2510	2281	2306	2431	2510
62.5°	2288	2094	2126	2334	2417
65°	2008	1865	1940	2209	2266
67.5°	1779	1617	1807	2037	2022
70°	1506	1416	1682	1771	1721
72.5°	1277	1201	1499	1474	1449
75°	1040	1033	1234	1212	1183
77.5°	803	889	947	957	889
80°	567	703	681	653	631
82.5°	351	477	416	423	387
85°	172	226	201	165	158
87.5°	50	65	50	54	57
90°	0	1	0	3	1
92.5°	0	4	5	4	3
95°	9	4	5	5	4
97.5°	33	6	6	6	4
100°	42	9	7	8	6
102.5°	56	11	8	8	6
105°	75	14	10	8	6
107.5°	98	18	13	11	9
110°	119	18	18	12	12



TEST NUMBER: ITL63237

CATALOG NUMBER: HBI-632-M-UNV-EB82/PLUS-UPL-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	136	23	19	18	13
115°	156	29	20	22	19
117.5°	176	37	24	25	25
120°	203	41	30	27	25
122.5°	224	43	30	26	27
125°	248	55	33	32	27
127.5°	274	75	42	39	34
130°	297	106	52	39	43
132.5°	322	138	61	43	42
135°	341	172	68	54	44
137.5°	362	206	69	65	55
140°	384	234	68	74	67
142.5°	402	270	82	81	75
145°	423	297	122	80	82
147.5°	442	324	167	78	79
150°	460	355	215	109	81
152.5°	476	377	258	155	114
155°	491	405	297	218	175
157.5°	508	430	340	269	239
160°	525	459	379	325	294
162.5°	543	486	420	371	351
165°	556	508	451	415	396
167.5°	566	533	483	456	440
170°	578	555	517	496	485
172.5°	586	573	548	534	520
175°	591	586	575	564	559
177.5°	593	591	589	586	585
180°	589	589	589	589	589

(END OF REPORT)