

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: ITL66962

Luminaire Tested: **HBI-447T5-N-UNV-EHT1-UPL**

Issue Date: 3/3/2020



**Test Information**

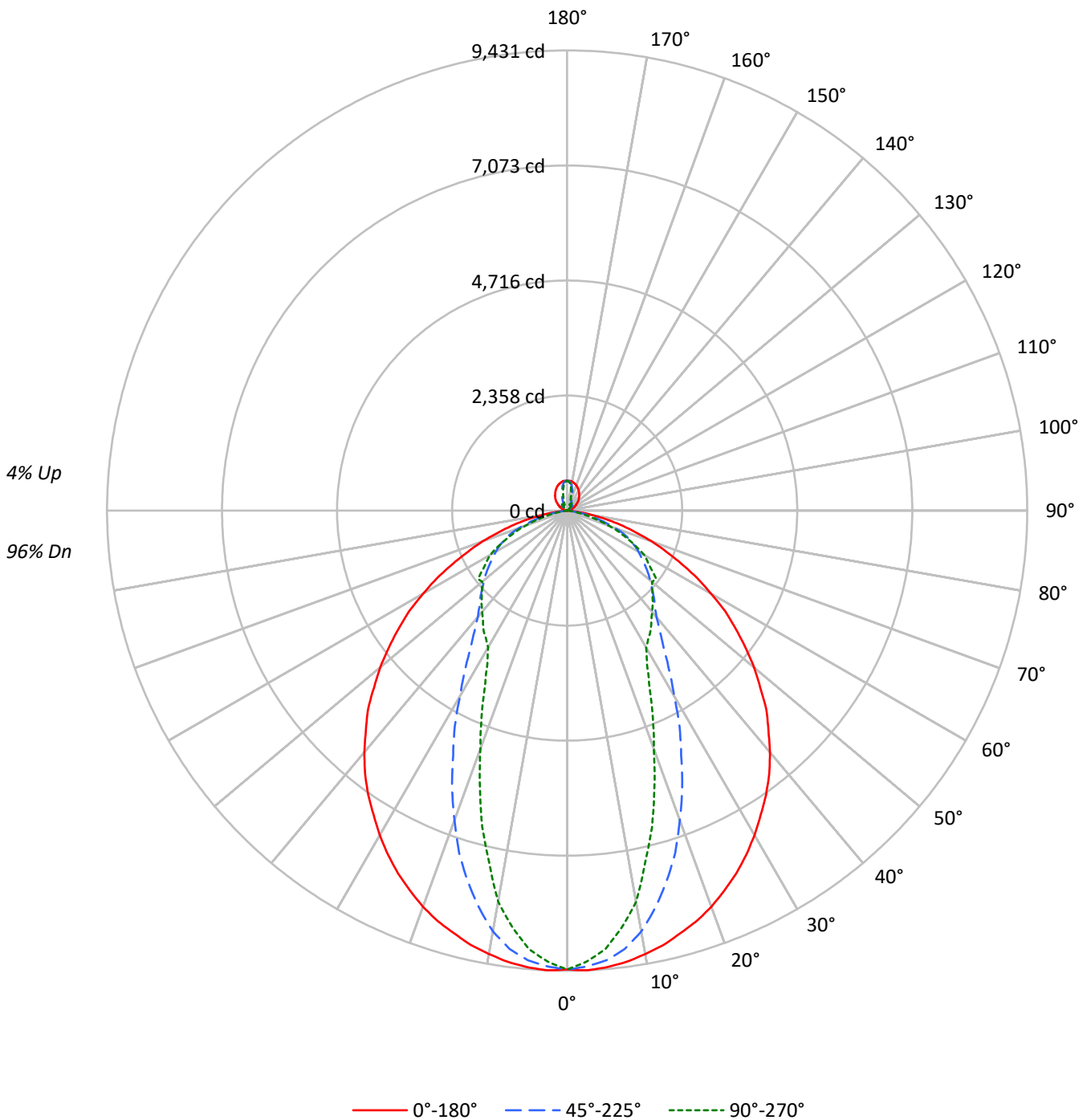
Test Method: LM-41-14  
Report Number: ITL66962  
Test Lab: INDEPENDENT TESTING LABORATORIES, INC.  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: HBI-447T5-N-UNV-EHT1-UPL  
Description: METALUX F-BAY HBI SERIES, FULL BODY STEEL HOUSING, WITH  
A NARROW DISTRIBUTION SPECULAR ALUMINUM REFLECTOR, WITH UPLIGHT  
Light Source: FOUR 47-WATT T5 GE F54T5/47W/841/ECO LINEAR FLUORESCENTS - 4285 LUMENS EA  
GE F54T5-47W 841-ECO 47W [OTHER]THE 0 DEGREE PLANE IS PARALLEL WITH  
THE LAMPS.  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 4285 (4 lamps)  
Luminaire Lumens: 15913.3 lumens  
Efficiency: 92.8%  
Efficacy: 76.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 0.68 / 0.89  
Luminous Opening: Rectangular (W 1.29' x L: 3.99' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 207.8  
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	101	101	101	96	96	96	91	91	91	89
1	101	98	94	91	99	95	92	89	90	88	86	86	84	82	82	81	79	77
2	93	87	81	76	91	84	79	75	81	76	73	77	74	70	74	71	68	66
3	86	77	70	65	83	75	69	64	72	67	63	69	65	61	66	63	59	57
4	79	69	62	56	77	68	61	56	65	59	55	62	57	53	60	56	52	50
5	74	63	55	49	71	61	54	49	59	53	48	57	52	47	55	50	46	45
6	68	57	49	44	66	56	49	44	54	48	43	52	47	42	50	45	42	40
7	64	52	45	40	62	51	44	39	50	43	39	48	42	38	46	42	38	36
8	60	48	41	36	58	47	40	36	46	40	35	44	39	35	43	38	34	33
9	56	45	38	33	55	44	37	33	43	36	32	41	36	32	40	35	32	30
10	53	41	35	30	52	41	34	30	40	34	30	39	33	29	38	33	29	28

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

	0°	45°	90°
0°	19624	19624	19624
5°	19667	19372	18880
10°	19547	18551	17242
15°	19370	16988	14502
20°	19182	14987	11537
25°	18879	12728	9188
30°	18495	10567	7804
35°	18099	8801	7614
40°	17605	7758	7374
45°	17040	7411	7296
50°	16230	7201	7367
55°	15315	7074	7685
60°	14206	7055	7639
65°	12750	6955	6723
70°	11216	6422	5636
75°	9083	5045	3909
80°	6115	2823	1694
85°	2250	1125	1125



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	865.1	5.4	5.0	0°	9407	9407	9407	9407	9407	
10°-20°	2199.4	13.8	12.8	5°	9392	9333	9251	9146	9016	891
20°-30°	2696.4	16.9	15.7	15°	8969	8711	7866	7142	6715	2532
30°-40°	2676.9	16.8	15.6	25°	8202	7365	5530	4422	3992	3775
40°-50°	2454.8	15.4	14.3	35°	7107	5498	3456	3049	2990	4440
50°-60°	2058.0	12.9	12.0	45°	5776	3569	2512	2548	2473	4434
60°-70°	1489.6	9.4	8.7	55°	4211	2008	1945	2090	2113	3768
70°-80°	696.7	4.4	4.1	65°	2583	1237	1409	1397	1362	2575
80°-90°	90.0	0.6	0.5	75°	1127	685	626	520	485	1202
90°-100°	8.5	0.1	0.0	85°	94	55	47	47	47	169
100°-110°	22.3	0.1	0.1	90°	0	4	4	3	3	2
110°-120°	48.3	0.3	0.3	95°	5	8	8	8	5	12
120°-130°	71.9	0.5	0.4	105°	68	22	13	11	9	73
130°-140°	112.7	0.7	0.7	115°	152	71	23	20	17	149
140°-150°	127.9	0.8	0.7	125°	237	81	65	36	32	214
150°-160°	121.3	0.8	0.7	135°	339	105	150	115	89	261
160°-170°	119.0	0.7	0.7	145°	428	221	114	175	191	268
170°-180°	54.5	0.3	0.3	155°	513	375	200	137	130	236
0°-30°	5760.9	36.2	33.6	165°	578	520	411	334	306	163
0°-40°	8437.8	53.0	49.2	175°	614	605	595	582	575	58
0°-60°	12950.6	81.4	75.6	180°	609	609	609	609	609	
0°-90°	15226.9	95.7	88.8							
90°-120°	79.1	0.5	0.5							
90°-150°	391.5	2.5	2.3							
90°-180°	686.0	4.3	4.0							
0°-180°	15913.3	100.0	92.8							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9407	9407	9407	9407	9407
2.5°	9431	9408	9349	9302	9251
5°	9392	9333	9251	9146	9016
7.5°	9329	9228	9059	8836	8609
10°	9228	9095	8758	8347	8140
12.5°	9118	8926	8339	7780	7388
15°	8969	8711	7866	7142	6715
17.5°	8821	8437	7361	6398	5948
20°	8641	8128	6751	5729	5197
22.5°	8422	7748	6164	5013	4586
25°	8202	7365	5530	4422	3992
27.5°	7952	6946	4986	3906	3538
30°	7678	6473	4387	3518	3240
32.5°	7388	6011	3898	3232	3099
35°	7107	5498	3456	3049	2990
37.5°	6801	5013	3119	2919	2833
40°	6465	4508	2849	2767	2708
42.5°	6105	4011	2657	2657	2598
45°	5776	3569	2512	2548	2473
47.5°	5369	3095	2356	2411	2364
50°	5001	2688	2219	2285	2270
52.5°	4602	2297	2090	2164	2301
55°	4211	2008	1945	2090	2113
57.5°	3843	1757	1808	1918	1957
60°	3405	1565	1691	1769	1831
62.5°	3013	1405	1561	1636	1597
65°	2583	1237	1409	1397	1362
67.5°	2199	1092	1264	1158	1158
70°	1839	939	1053	947	924
72.5°	1456	810	822	724	689
75°	1127	685	626	520	485
77.5°	806	540	427	321	297
80°	509	352	235	125	141
82.5°	266	188	82	63	63
85°	94	55	47	47	47
87.5°	16	20	20	20	31
90°	0	4	4	3	3
92.5°	2	7	7	6	5
95°	5	8	8	8	5
97.5°	21	9	9	9	7
100°	32	13	9	9	7
102.5°	48	17	11	9	8
105°	68	22	13	11	9
107.5°	90	26	15	11	9
110°	109	34	18	12	11



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	130	53	21	16	13
115°	152	71	23	20	17
117.5°	171	82	29	25	22
120°	193	85	34	26	27
122.5°	214	83	41	29	28
125°	237	81	65	36	32
127.5°	264	77	93	39	36
130°	290	82	121	52	44
132.5°	317	91	144	84	55
135°	339	105	150	115	89
137.5°	360	129	148	153	125
140°	385	156	137	178	166
142.5°	406	189	125	184	188
145°	428	221	114	175	191
147.5°	449	253	115	159	179
150°	473	292	130	137	157
152.5°	492	331	160	127	137
155°	513	375	200	137	130
157.5°	534	415	252	168	145
160°	549	457	300	220	185
162.5°	566	492	356	276	246
165°	578	520	411	334	306
167.5°	590	548	468	409	375
170°	601	572	527	480	456
172.5°	608	592	565	545	524
175°	614	605	595	582	575
177.5°	613	609	609	605	603
180°	609	609	609	609	609

(END OF REPORT)