

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: P30629-R2

Luminaire Tested: **HBI-647T5-N-UNV-EHT2-UPL**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P30629-R2
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: HBI-647T5-N-UNV-EHT2-UPL
Description: METALUX F-BAY HBI SERIES, FULL BODY STEEL HOUSING, WITH
A NARROW DISTRIBUTION SPECULAR ALUMINUM REFLECTOR, WITH UPLIGHT
Light Source: (6) BIPIN T5 LINEAR FLUORESCENT LAMP 4100K - 4285 LUMENS EA
GE F54T5-47W 841-ECO 47W
Ballast/Driver: GE ELECTRONIC BALLAST
GE 454MVPS90E, 254MVPS90E

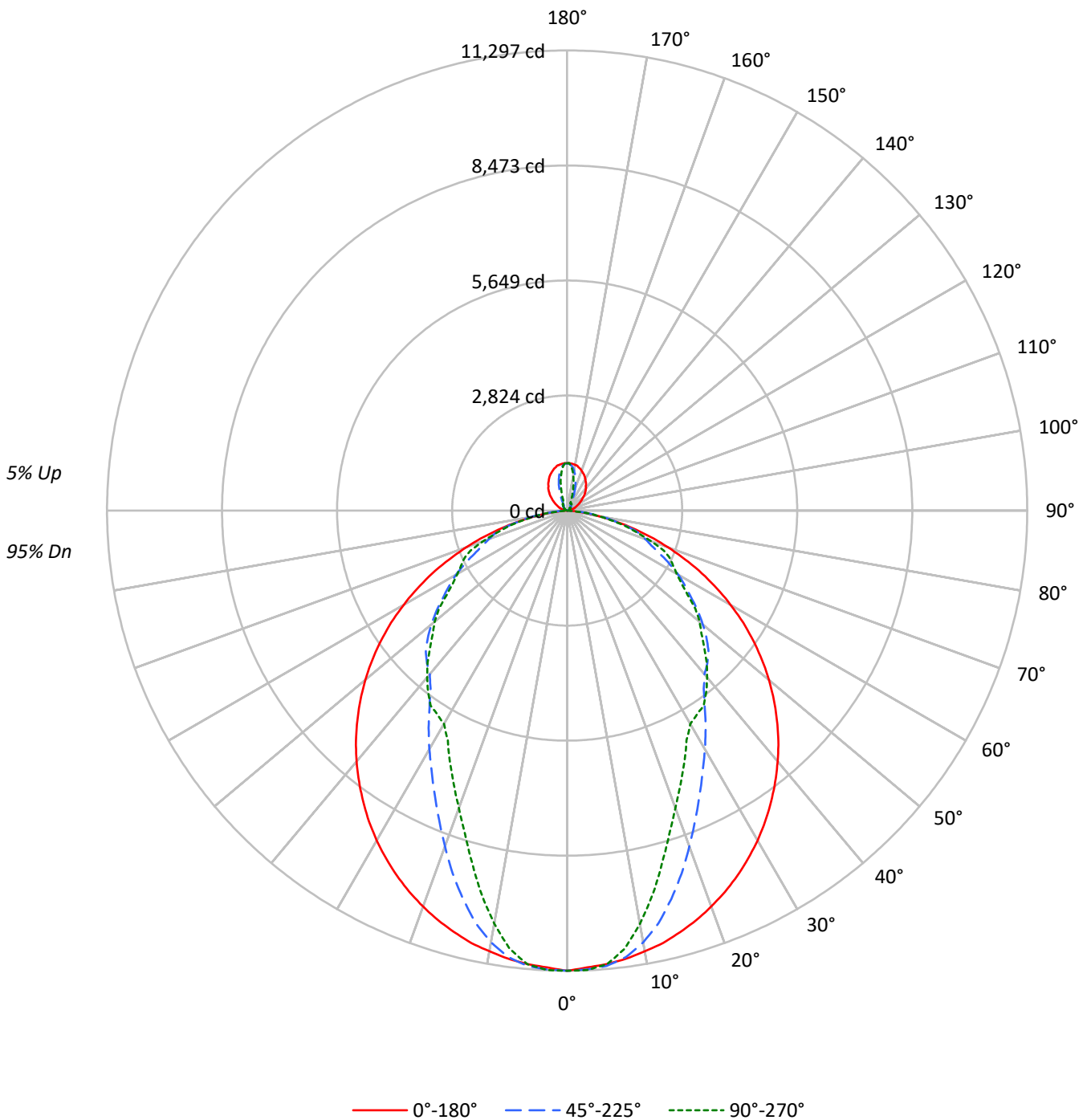
Summary

Lumens per Lamp: 4285 (6 lamps)
Luminaire Lumens: 24963.7 lumens
Efficiency: 97.1%
Efficacy: 80.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 0.84 / 1.07
Luminous Opening: Rectangular (W 1.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 310
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	50	30	10	50	30	10	0		
RCR																										
0	115	115	115	115	111	111	111	111	105	105	105	100	100	100	95	95	95	93								
1	105	101	97	93	102	98	94	91	93	90	87	89	86	84	84	83	81	78								
2	96	88	82	77	93	86	80	75	82	77	73	78	74	71	75	71	68	66								
3	88	78	70	64	85	76	69	63	73	67	62	69	64	60	66	62	59	56								
4	81	69	61	55	78	68	60	54	65	58	53	62	56	52	60	55	51	49								
5	74	62	54	48	72	61	53	47	58	52	46	56	50	45	54	49	45	42								
6	69	56	48	42	67	55	47	42	53	46	41	51	45	40	49	44	40	37								
7	64	51	43	37	62	50	43	37	48	42	36	47	41	36	45	40	35	33								
8	60	47	39	34	58	46	39	33	45	38	33	43	37	32	42	36	32	30								
9	56	43	36	30	54	43	35	30	41	35	30	40	34	29	39	33	29	27								
10	53	40	33	28	51	39	32	28	38	32	27	37	31	27	36	31	27	25								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	24732	24732	24732
5°	24561	24657	24570
10°	24425	23924	22888
15°	24283	22373	20358
20°	24101	20434	18095
25°	23888	18586	16443
30°	23639	17094	15292
35°	23332	15744	15611
40°	22980	14990	15281
45°	22558	15196	14728
50°	22019	14802	14448
55°	21310	14176	13783
60°	20308	13801	13604
65°	18929	12997	14448
70°	16815	13032	14018
75°	13999	13196	12603
80°	9947	11057	9733
85°	4471	7310	2336



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	1052.8	4.2	4.1	0°	11297	11297	11297	11297	11297	
10°-20°	2769.7	11.1	10.8	5°	11176	11194	11220	11180	11180	###
20°-30°	3706.8	14.8	14.4	15°	10714	10597	9871	9203	8982	3023
30°-40°	4100.1	16.4	15.9	25°	9889	9176	7694	6991	6807	4557
40°-50°	4070.5	16.3	15.8	35°	8730	7284	5891	5746	5841	5460
50°-60°	3527.2	14.1	13.7	45°	7286	5392	4908	4812	4757	5617
60°-70°	2706.1	10.8	10.5	55°	5583	3730	3714	3686	3611	4984
70°-80°	1549.1	6.2	6.0	65°	3654	2553	2509	2688	2789	3603
80°-90°	330.7	1.3	1.3	75°	1655	1271	1560	1477	1490	1763
90°-100°	13.2	0.1	0.1	85°	178	280	291	142	93	283
100°-110°	44.5	0.2	0.2	90°	4	4	3	7	9	7
110°-120°	80.1	0.3	0.3	95°	16	8	0	12	9	25
120°-130°	116.7	0.5	0.5	105°	118	33	21	31	24	131
130°-140°	156.1	0.6	0.6	115°	253	66	39	55	52	255
140°-150°	194.1	0.8	0.8	125°	418	99	62	85	73	378
150°-160°	217.5	0.9	0.8	135°	621	168	135	121	93	481
160°-170°	225.3	0.9	0.9	145°	812	413	150	184	189	503
170°-180°	103.2	0.4	0.4	155°	976	729	345	200	189	448
0°-30°	7529.4	30.2	29.3	165°	1096	1000	783	635	572	310
0°-40°	11629.5	46.6	45.2	175°	1158	1149	1116	1107	1101	110
0°-60°	19227.2	77.0	74.8	180°	1162	1162	1162	1162	1162	
0°-90°	23813.1	95.4	92.6							
90°-120°	137.8	0.6	0.5							
90°-150°	604.6	2.4	2.4							
90°-180°	1151.0	4.6	4.5							
0°-180°	24963.7	100.0	97.1							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	11297	11297	11297	11297	11297
2.5°	11228	11249	11276	11269	11289
5°	11176	11194	11220	11180	11180
7.5°	11096	11118	11057	10893	10845
10°	10987	10991	10762	10419	10296
12.5°	10873	10832	10373	9852	9674
15°	10714	10597	9871	9203	8982
17.5°	10543	10313	9342	8554	8330
20°	10345	9981	8771	7975	7767
22.5°	10129	9598	8215	7462	7271
25°	9889	9176	7694	6991	6807
27.5°	9629	8734	7207	6520	6349
30°	9351	8270	6762	6121	6049
32.5°	9051	7784	6328	5859	5933
35°	8730	7284	5891	5746	5841
37.5°	8392	6791	5507	5620	5609
40°	8041	6314	5245	5380	5347
42.5°	7676	5855	5090	5118	5070
45°	7286	5392	4908	4812	4757
47.5°	6885	4959	4645	4494	4473
50°	6465	4524	4346	4217	4242
52.5°	6034	4107	4039	3983	3968
55°	5583	3730	3714	3686	3611
57.5°	5124	3427	3426	3345	3324
60°	4638	3142	3152	3048	3107
62.5°	4151	2859	2836	2852	2937
65°	3654	2553	2509	2688	2789
67.5°	3133	2199	2236	2510	2572
70°	2627	1872	2036	2224	2190
72.5°	2138	1578	1858	1843	1806
75°	1655	1271	1560	1477	1490
77.5°	1194	989	1177	1175	1111
80°	789	795	877	772	772
82.5°	456	556	524	575	560
85°	178	280	291	142	93
87.5°	28	81	63	49	52
90°	4	4	3	7	9
92.5°	13	10	4	18	15
95°	16	8	0	12	9
97.5°	37	15	2	15	13
100°	66	21	7	25	22
102.5°	88	30	13	26	32
105°	118	33	21	31	24
107.5°	163	48	32	39	37
110°	193	47	32	47	46



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	226	55	38	47	53
115°	253	66	39	55	52
117.5°	289	83	47	65	62
120°	329	88	65	69	66
122.5°	381	102	75	81	84
125°	418	99	62	85	73
127.5°	468	103	81	108	95
130°	525	115	106	106	114
132.5°	579	135	129	104	112
135°	621	168	135	121	93
137.5°	672	216	141	151	121
140°	722	277	153	175	162
142.5°	752	331	144	171	173
145°	812	413	150	184	189
147.5°	846	485	151	193	191
150°	894	569	192	195	202
152.5°	937	652	261	189	202
155°	976	729	345	200	189
157.5°	1006	794	446	261	220
160°	1039	874	558	367	303
162.5°	1074	947	677	500	436
165°	1096	1000	783	635	572
167.5°	1130	1064	898	780	732
170°	1139	1094	985	899	866
172.5°	1150	1124	1065	1015	996
175°	1158	1149	1116	1107	1101
177.5°	1167	1166	1154	1161	1166
180°	1162	1162	1162	1162	1162

(END OF REPORT)