

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: 236p330

Luminaire Tested: **HBI-632-N-A-UNV-EB83/PLUS-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 236p330
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: HBI-632-N-A-UNV-EB83/PLUS-U
Description: HBI SERIES, FULL BODY STEEL HOUSING, WITH SIX T8 LAMPS
NARROW DISTRIBUTION SPECULAR REFLECTOR AND STANDARD DOORFRAME
WITH PRISMATIC ACRYLIC LENS, NO UPLIGHT
Light Source: SIX T8 LINEAR FLUORESCENT LAMPS, F32T8 32W - 2850 LUMENS EA
Ballast/Driver: -

Summary

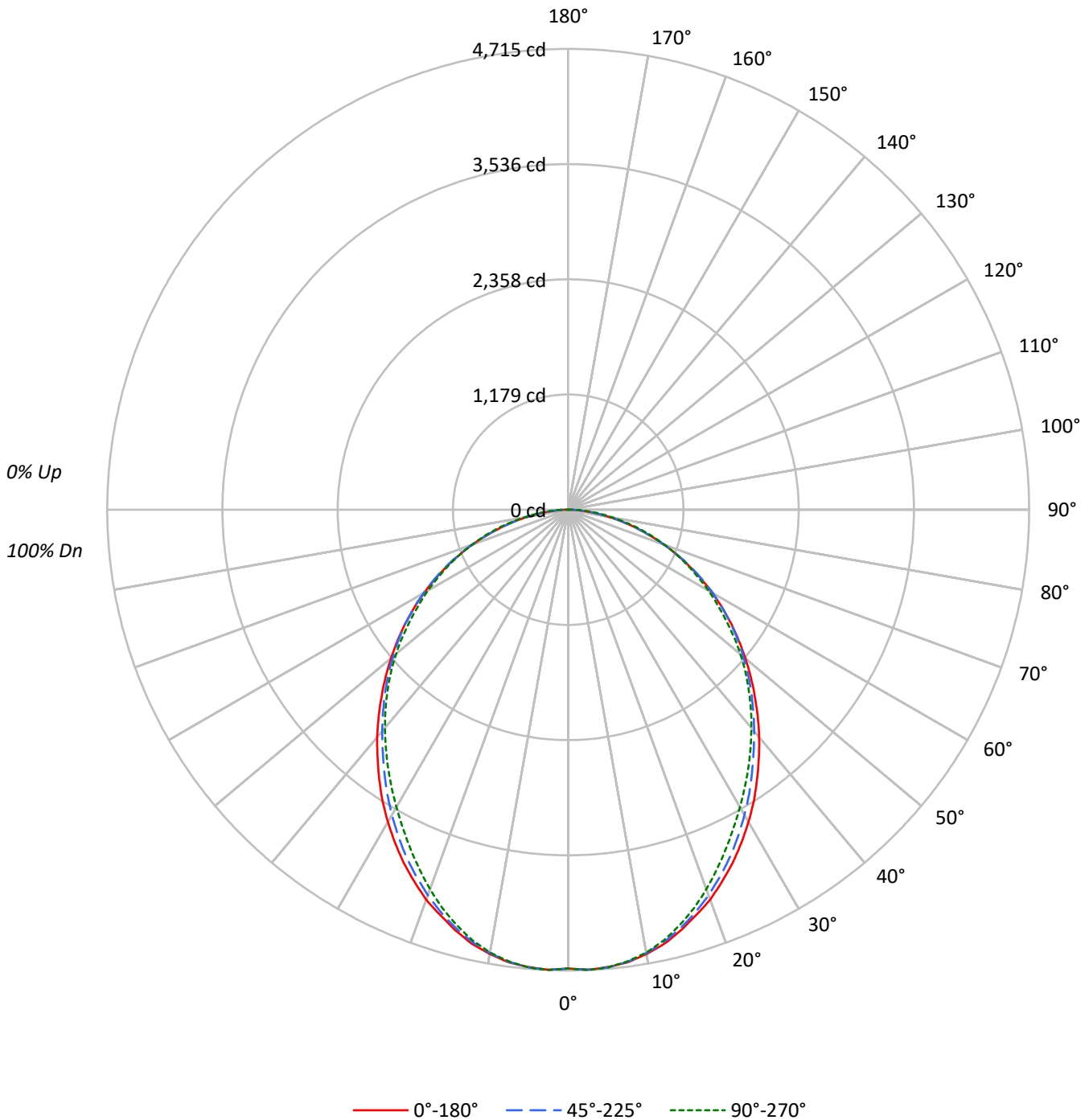
Lumens per Lamp: 2850 (6 lamps)
Luminaire Lumens: 11767.6 lumens
Efficiency: 68.8%
Efficacy: 62.6 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.13 / 1.27
Luminous Opening: Rectangular (W 1.23' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 188
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	82	82	82	82	80	80	80	80	76	76	76	73	73	73	70	70	70	69
1	75	72	69	66	73	70	67	65	67	65	63	65	63	61	62	61	59	58
2	68	63	58	54	66	61	57	54	59	55	52	57	54	51	55	52	50	48
3	62	55	50	45	61	54	49	45	52	48	44	50	46	43	48	45	43	41
4	57	49	43	39	56	48	43	38	46	42	38	45	41	37	43	40	37	35
5	53	44	38	33	51	43	37	33	42	37	33	40	36	32	39	35	32	31
6	49	40	34	29	47	39	33	29	38	33	29	37	32	29	36	32	28	27
7	45	36	30	26	44	36	30	26	34	29	26	33	29	25	33	28	25	24
8	42	33	27	23	41	33	27	23	32	27	23	31	26	23	30	26	23	21
9	40	30	25	21	39	30	25	21	29	24	21	28	24	21	28	24	21	19
10	37	28	23	19	36	28	23	19	27	22	19	26	22	19	26	22	19	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10497	10497	10497
5°	10540	10549	10549
10°	10480	10459	10446
15°	10312	10263	10192
20°	10103	9986	9831
25°	9828	9666	9429
30°	9521	9310	9070
35°	9196	8947	8773
40°	8870	8636	8508
45°	8531	8373	8259
50°	8226	8139	7993
55°	7933	7917	7679
60°	7611	7642	7405
65°	7237	7296	7132
70°	6786	6825	6844
75°	6185	6194	6479
80°	5434	5446	6013
85°	4489	4695	5669



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	445.4	3.8	2.6	0°	4695	4695	4695	4695	4695	
10°-20°	1246.4	10.6	7.3	5°	4696	4698	4700	4698	4700	446
20°-30°	1799.1	15.3	10.5	15°	4455	4448	4434	4410	4403	1255
30°-40°	2058.9	17.5	12.0	25°	3984	3972	3918	3843	3822	1833
40°-50°	2052.0	17.4	12.0	35°	3369	3364	3278	3224	3214	2107
50°-60°	1806.0	15.3	10.6	45°	2698	2697	2648	2634	2612	2084
60°-70°	1355.1	11.5	7.9	55°	2035	2033	2031	2014	1970	1819
70°-80°	772.2	6.6	4.5	65°	1368	1371	1379	1368	1348	1354
80°-90°	227.5	1.9	1.3	75°	716	715	717	747	750	760
90°-100°	5.1	0.0	0.0	85°	175	175	183	214	221	195
100°-110°	0.0	0.0	0.0	90°	17	24	35	53	57	16
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°	3490.9	29.7	20.4	165°	0	0	0	0	0	0
0°-40°	5549.8	47.2	32.5	175°	0	0	0	0	0	0
0°-60°	9407.8	79.9	55.0	180°	0	0	0	0	0	0
0°-90°	11762.5	100.0	68.8							
90°-120°	5.1	0.0	0.0							
90°-150°	5.1	0.0	0.0							
90°-180°	5.0	0.0	0.0							
0°-180°	11767.6	100.0	68.8							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4695	4695	4695	4695	4695
2.5°	4710	4706	4711	4709	4715
5°	4696	4698	4700	4698	4700
7.5°	4670	4664	4665	4658	4660
10°	4616	4611	4607	4598	4601
12.5°	4549	4539	4530	4514	4513
15°	4455	4448	4434	4410	4403
17.5°	4349	4347	4322	4283	4275
20°	4246	4230	4197	4148	4132
22.5°	4116	4105	4060	3998	3978
25°	3984	3972	3918	3843	3822
27.5°	3838	3828	3764	3686	3666
30°	3688	3679	3606	3530	3513
32.5°	3533	3528	3445	3377	3363
35°	3369	3364	3278	3224	3214
37.5°	3203	3200	3116	3076	3063
40°	3039	3033	2959	2928	2915
42.5°	2869	2864	2802	2781	2765
45°	2698	2697	2648	2634	2612
47.5°	2533	2529	2494	2483	2459
50°	2365	2365	2340	2330	2298
52.5°	2200	2198	2184	2172	2136
55°	2035	2033	2031	2014	1970
57.5°	1868	1869	1871	1851	1810
60°	1702	1704	1709	1689	1656
62.5°	1535	1537	1544	1528	1501
65°	1368	1371	1379	1368	1348
67.5°	1202	1204	1210	1211	1199
70°	1038	1039	1044	1055	1047
72.5°	874	874	877	898	897
75°	716	715	717	747	750
77.5°	564	561	564	597	603
80°	422	418	423	458	467
82.5°	290	288	294	328	337
85°	175	175	183	214	221
87.5°	83	85	94	120	127
90°	17	24	35	53	57
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)