

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: P30364

Luminaire Tested: **HBI-432-N-A-UNV-EB81-SDF-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P30364
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: HBI-432-N-A-UNV-EB81-SDF-U
Description: HBI SERIES, FULL BODY STEEL HOUSING, WITH FOUR T8 LAMPS,
NARROW DISTRIBUTION SPECULAR REFLECTOR AND PRISMATIC ACRYLIC LENS
IN SLOTTED DOORFRAME, NO UPLIGHT
Light Source: FOUR T8 LINEAR FLUORESCENT LAMPS, F32T8 32W - 3100 LUMENS EA
Ballast/Driver: GE ELECTRONIC BALLAST
GE432MAXULTRA

Summary

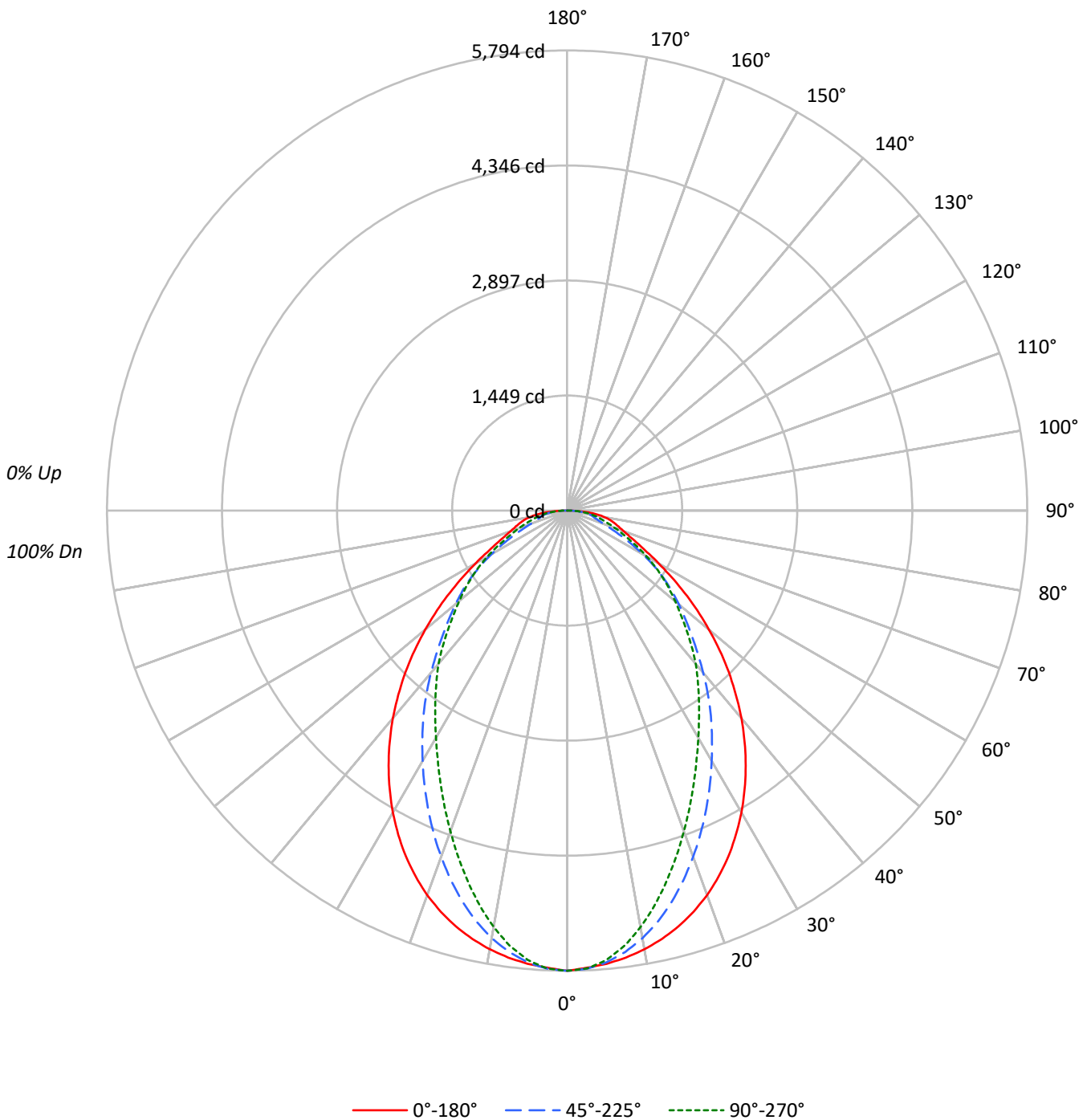
Lumens per Lamp: 3100 (4 lamps)
Luminaire Lumens: 10681.6 lumens
Efficiency: 86.1%
Efficacy: 71.5 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 0.91 / 1.08
Luminous Opening: Rectangular (W 1.21' x L: 3.71' x H: 0')
CIE Type: Direct

Input Watts (W): 149.3
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	103	103	103	103	100	100	100	100	96	96	96	92	92	92	88	88	88	86
1	95	91	88	85	92	89	86	83	85	83	81	82	80	78	79	77	76	74
2	87	81	75	71	85	79	74	70	76	72	69	73	70	67	71	68	65	64
3	80	72	66	61	78	71	65	60	68	63	59	66	62	58	64	60	57	55
4	74	65	58	53	72	64	57	52	62	56	52	60	55	51	58	54	50	48
5	69	59	52	46	67	58	51	46	56	50	46	54	49	45	53	48	45	43
6	64	53	46	41	62	53	46	41	51	45	41	50	44	40	48	44	40	38
7	60	49	42	37	58	48	42	37	47	41	37	46	40	36	45	40	36	34
8	56	45	38	33	55	44	38	33	43	37	33	42	37	33	41	36	33	31
9	52	42	35	30	51	41	35	30	40	34	30	39	34	30	38	34	30	28
10	49	39	32	28	48	38	32	28	37	32	28	37	31	28	36	31	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13918	13918	13918
5°	13810	13769	13694
10°	13682	13335	12991
15°	13479	12673	12019
20°	13170	11859	10982
25°	12736	10986	10008
30°	12174	10097	9162
35°	11495	9249	8478
40°	10706	8363	7893
45°	9777	7508	7202
50°	8711	6854	6630
55°	7555	6207	6140
60°	6385	5290	5559
65°	5548	4223	4911
70°	5303	3427	4495
75°	5764	3351	4316
80°	6640	4081	4634
85°	7580	4741	5016



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	537.0	5.0	4.3	0°	5794	5794	5794	5794	5794	
10°-20°	1433.0	13.4	11.6	5°	5727	5726	5710	5685	5679	543
20°-30°	1936.1	18.1	15.6	15°	5420	5316	5096	4899	4833	1525
30°-40°	2043.1	19.1	16.5	25°	4805	4555	4145	3860	3776	2207
40°-50°	1812.6	17.0	14.6	35°	3920	3589	3154	2933	2891	2446
50°-60°	1375.9	12.9	11.1	45°	2878	2542	2210	2125	2120	2215
60°-70°	845.9	7.9	6.8	55°	1804	1607	1482	1430	1466	1618
70°-80°	489.5	4.6	3.9	65°	976	905	743	782	864	990
80°-90°	206.4	1.9	1.7	75°	621	503	361	417	465	654
90°-100°	2.1	0.0	0.0	85°	275	227	172	165	182	266
100°-110°	0.0	0.0	0.0	90°	17	16	13	16	18	24
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°	3906.0	36.6	31.5	165°	0	0	0	0	0	0
0°-40°	5949.1	55.7	48.0	175°	0	0	0	0	0	0
0°-60°	9137.6	85.5	73.7	180°	0	0	0	0	0	0
0°-90°	10679.4	100.0	86.1							
90°-120°	2.1	0.0	0.0							
90°-150°	2.1	0.0	0.0							
90°-180°	2.0	0.0	0.0							
0°-180°	10681.6	100.0	86.1							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5794	5794	5794	5794	5794
2.5°	5762	5769	5774	5769	5771
5°	5727	5726	5710	5685	5679
7.5°	5676	5659	5605	5545	5527
10°	5609	5569	5467	5361	5326
12.5°	5523	5456	5295	5143	5091
15°	5420	5316	5096	4899	4833
17.5°	5295	5154	4874	4642	4567
20°	5152	4972	4639	4381	4296
22.5°	4987	4772	4395	4117	4033
25°	4805	4555	4145	3860	3776
27.5°	4603	4325	3891	3610	3530
30°	4389	4085	3640	3373	3303
32.5°	4160	3839	3394	3148	3089
35°	3920	3589	3154	2933	2891
37.5°	3671	3334	2912	2723	2703
40°	3414	3071	2667	2517	2517
42.5°	3146	2803	2428	2312	2321
45°	2878	2542	2210	2125	2120
47.5°	2604	2286	2015	1951	1937
50°	2331	2045	1834	1779	1774
52.5°	2064	1817	1660	1605	1619
55°	1804	1607	1482	1430	1466
57.5°	1555	1409	1294	1257	1313
60°	1329	1225	1101	1087	1157
62.5°	1134	1055	912	926	1005
65°	976	905	743	782	864
67.5°	851	780	599	662	744
70°	755	675	488	566	640
72.5°	682	585	412	489	546
75°	621	503	361	417	465
77.5°	558	435	330	354	400
80°	480	372	295	292	335
82.5°	391	306	242	229	261
85°	275	227	172	165	182
87.5°	141	123	91	90	97
90°	17	16	13	16	18
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)