

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: P30559

Luminaire Tested: **2HP2-WO-3U158W33P-UNV-HB81**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P30559
Test Lab: METALUX RESEARCH LABS
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 2HP2-WO-3U158W33P-UNV-HB81
Description: METALUX HP2 HIGH PERFORMANCE RECESSED 2x4 FLUORESCENT LUMINAIRE
WHITE OPTICS HOUSING, 9 CELL WHITE LOUVER, PAF BALLAST COVER
Light Source: (3) THREE 31-WATT T-8 1.625" U-LAMP FLUORESCENTS - 2775 LUMENS EA
Ballast/Driver: -
B332IUNVEL-A

Summary

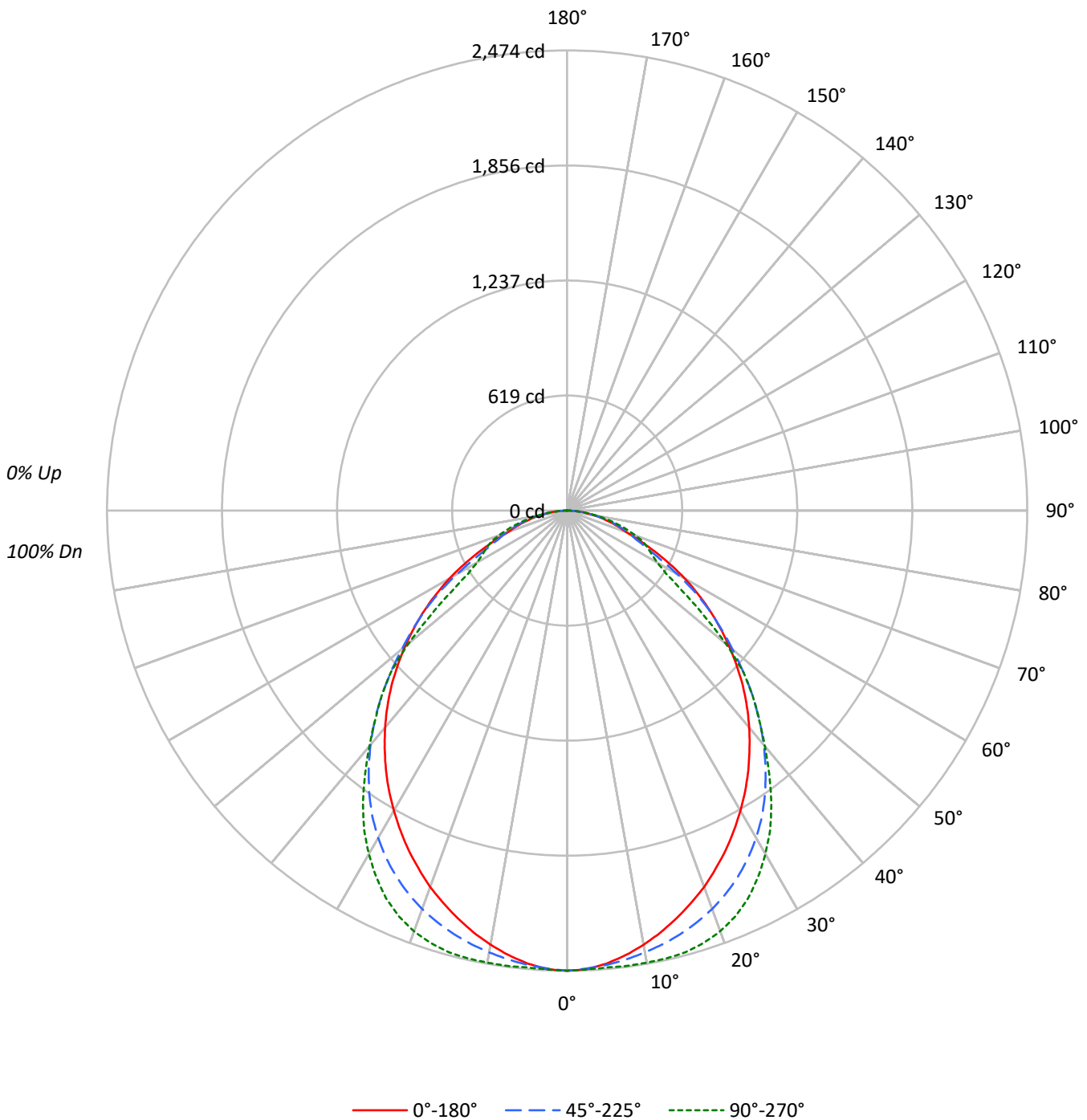
Lumens per Lamp: 2775 (3 lamps)
Luminaire Lumens: 5755.3 lumens
Efficiency: 69.1%
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.26 / 1.29
Luminous Opening: Rectangular (W 1.75' x L: 1.75' x H: 0')
CIE Type: Direct

Input Watts (W): 66.5
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	77	77	77	74	74	74	71	71	71	69
1	76	73	70	68	74	71	69	67	68	66	65	66	64	63	63	62	61	59
2	70	64	60	57	68	63	59	56	61	57	55	59	56	53	56	54	52	51
3	64	57	52	48	62	56	51	47	54	50	47	52	49	46	51	48	45	44
4	59	51	46	41	57	50	45	41	49	44	40	47	43	40	46	42	39	38
5	54	46	40	36	53	45	40	36	44	39	35	43	38	35	41	38	35	33
6	51	42	36	32	49	41	36	32	40	35	31	39	34	31	38	34	31	29
7	47	38	32	28	46	38	32	28	36	32	28	36	31	28	35	31	28	26
8	44	35	29	25	43	34	29	25	34	29	25	33	28	25	32	28	25	24
9	41	32	27	23	40	32	27	23	31	26	23	30	26	23	30	26	23	21
10	39	30	24	21	38	29	24	21	29	24	21	28	24	21	27	24	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8695	8695	8695
5°	8623	8648	8700
10°	8458	8608	8808
15°	8260	8576	8944
20°	8053	8528	9003
25°	7818	8423	8923
30°	7561	8247	8653
35°	7290	7959	8212
40°	6988	7548	7584
45°	6646	7014	7014
50°	6223	6348	6097
55°	5742	5705	4657
60°	5125	4801	3929
65°	4308	3876	3975
70°	3463	3607	4018
75°	3246	3436	3762
80°	3016	3158	3400
85°	2783	2783	2904



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	233.0	4.0	2.8	0°	2474	2474	2474	2474	2474	
10°-20°	665.7	11.6	8.0	5°	2444	2447	2451	2461	2466	231
20°-30°	994.7	17.3	11.9	15°	2270	2295	2357	2425	2458	639
30°-40°	1141.5	19.8	13.7	25°	2016	2071	2172	2253	2301	928
40°-50°	1074.0	18.7	12.9	35°	1699	1782	1855	1880	1914	1062
50°-60°	803.5	14.0	9.7	45°	1337	1421	1411	1377	1411	1029
60°-70°	493.1	8.6	5.9	55°	937	989	931	808	760	835
70°-80°	270.7	4.7	3.3	65°	518	538	466	460	478	517
80°-90°	78.7	1.4	0.9	75°	239	243	253	267	277	254
90°-100°	0.4	0.0	0.0	85°	69	68	69	70	72	72
100°-110°	0.0	0.0	0.0	90°	5	5	3	1	1	6
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°	1893.4	32.9	22.7	165°	0	0	0	0	0	0
0°-40°	3034.9	52.7	36.5	175°	0	0	0	0	0	0
0°-60°	4912.4	85.4	59.0	180°	0	0	0	0	0	0
0°-90°	5754.9	100.0	69.1							
90°-120°	0.4	0.0	0.0							
90°-150°	0.4	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	5755.3	100.0	69.1							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2474	2474	2474	2474	2474
2.5°	2468	2466	2464	2466	2469
5°	2444	2447	2451	2461	2466
7.5°	2411	2417	2434	2457	2469
10°	2370	2381	2412	2450	2468
12.5°	2323	2341	2387	2441	2466
15°	2270	2295	2357	2425	2458
17.5°	2213	2245	2321	2399	2438
20°	2153	2192	2280	2363	2407
22.5°	2085	2134	2230	2314	2362
25°	2016	2071	2172	2253	2301
27.5°	1941	2005	2107	2177	2222
30°	1863	1934	2032	2086	2132
32.5°	1783	1860	1949	1988	2032
35°	1699	1782	1855	1880	1914
37.5°	1611	1699	1752	1759	1784
40°	1523	1611	1645	1629	1653
42.5°	1431	1517	1531	1499	1528
45°	1337	1421	1411	1377	1411
47.5°	1238	1319	1285	1260	1284
50°	1138	1213	1161	1133	1115
52.5°	1037	1101	1043	975	926
55°	937	989	931	808	760
57.5°	833	876	813	666	630
60°	729	763	683	562	559
62.5°	624	648	560	503	513
65°	518	538	466	460	478
67.5°	420	437	399	420	445
70°	337	352	351	380	391
72.5°	287	292	302	323	334
75°	239	243	253	267	277
77.5°	193	196	203	214	221
80°	149	150	156	163	168
82.5°	106	107	110	114	118
85°	69	68	69	70	72
87.5°	31	30	29	28	29
90°	5	5	3	1	1
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)