

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: 230p131

Luminaire Tested: **GR5-228T5-A**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: 230p131  
Test Lab: METALUX RESEARCH LABORATORIES  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: GR5-228T5-A  
Description: 1 X 4 GR5 SERIES LUMINAIRE WITH A PRISMATIC ACRYLIC LENS  
Light Source: TWO - F28T5/835 - 2600 LUMENS - 28 WATTS  
Ballast/Driver: UNIVERSAL- B228PUNV-C

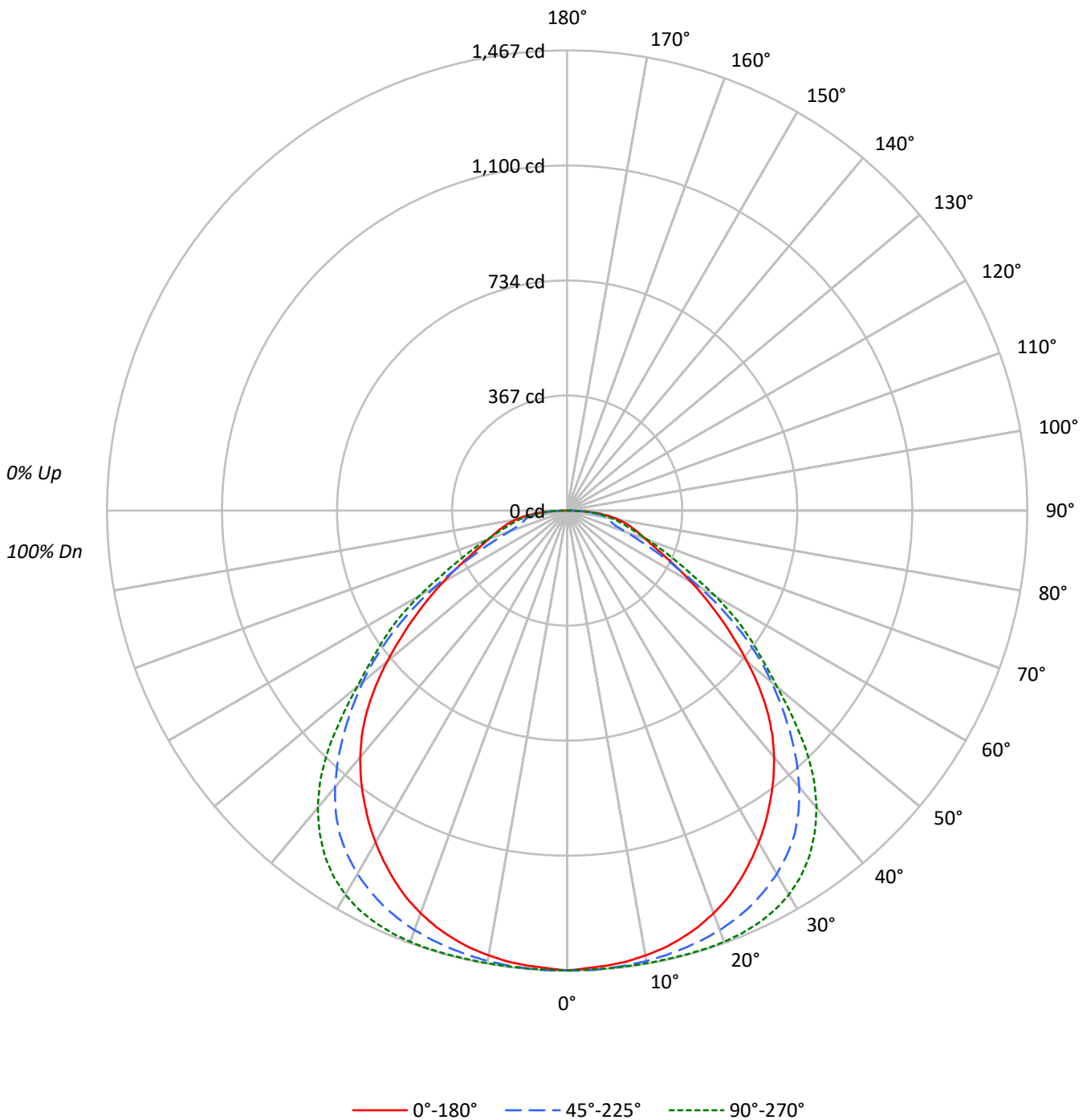
**Summary**

Lumens per Lamp: 2600 (2 lamps)  
Luminaire Lumens: 3957.0 lumens  
Efficiency: 76.1%  
Efficacy: 60.9 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.41 / 1.4  
Luminous Opening: Rectangular (W 0.82' x L: 3.81' x H: 0')  
CIE Type: Direct

Input Watts (W): 65  
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	91	91	91	91	88	88	88	88	85	85	85	81	81	81	78	78	78	76
1	83	80	77	74	81	78	75	73	75	72	70	72	70	68	69	68	66	65
2	76	70	65	61	74	69	64	60	66	62	59	64	60	58	61	59	56	55
3	70	62	56	51	68	61	55	51	59	54	50	57	53	49	55	51	48	47
4	64	55	49	44	62	54	48	44	52	47	43	51	46	43	49	45	42	40
5	59	50	43	38	58	49	43	38	47	42	38	46	41	37	44	40	37	35
6	55	45	38	34	53	44	38	33	43	37	33	42	37	33	40	36	33	31
7	51	41	34	30	49	40	34	30	39	33	29	38	33	29	37	32	29	28
8	47	37	31	27	46	37	31	26	36	30	26	35	30	26	34	29	26	25
9	44	34	28	24	43	34	28	24	33	28	24	32	27	24	31	27	24	22
10	41	32	26	22	40	31	25	22	30	25	22	30	25	21	29	25	21	20

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

	0°	45°	90°
0°	5030	5030	5030
5°	5014	5045	5045
10°	5017	5079	5104
15°	5012	5129	5204
20°	4987	5195	5341
25°	4929	5258	5485
30°	4841	5297	5602
35°	4729	5290	5637
40°	4595	5155	5540
45°	4376	4886	5226
50°	3998	4542	4660
55°	3559	4067	4259
60°	3143	3335	3740
65°	2768	2557	3142
70°	2668	1976	2739
75°	2877	1949	2638
80°	3280	2549	2944
85°	3897	3149	3267



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	139.5	3.5	2.7	0°	1466	1466	1466	1466	1466	
10°-20°	408.1	10.3	7.8	5°	1456	1461	1465	1468	1465	139
20°-30°	638.2	16.1	12.3	15°	1411	1427	1444	1463	1465	398
30°-40°	780.8	19.7	15.0	25°	1302	1338	1389	1437	1449	599
40°-50°	765.5	19.3	14.7	35°	1129	1184	1263	1325	1346	706
50°-60°	592.6	15.0	11.4	45°	902	933	1007	1057	1077	691
60°-70°	346.4	8.8	6.7	55°	595	642	680	690	712	534
70°-80°	198.2	5.0	3.8	65°	341	344	315	341	387	345
80°-90°	87.7	2.2	1.7	75°	217	205	147	180	199	229
90°-100°	0.0	0.0	0.0	85°	99	94	80	77	83	101
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	
110°-120°	0.0	0.0	0.0							
120°-130°	0.0	0.0	0.0							
130°-140°	0.0	0.0	0.0							
140°-150°	0.0	0.0	0.0							
150°-160°	0.0	0.0	0.0							
160°-170°	0.0	0.0	0.0							
170°-180°	0.0	0.0	0.0							
0°-30°	1185.8	30.0	22.8							
0°-40°	1966.6	49.7	37.8							
0°-60°	3324.7	84.0	63.9							
0°-90°	3957.0	100.0	76.1							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	3957.0	100.0	76.1							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1466	1466	1466	1466	1466
2.5°	1460	1463	1467	1468	1465
5°	1456	1461	1465	1468	1465
7.5°	1450	1456	1462	1468	1465
10°	1440	1449	1458	1467	1465
12.5°	1428	1440	1452	1465	1465
15°	1411	1427	1444	1463	1465
17.5°	1391	1411	1435	1460	1465
20°	1366	1391	1423	1456	1463
22.5°	1337	1366	1408	1449	1458
25°	1302	1338	1389	1437	1449
27.5°	1263	1305	1365	1421	1435
30°	1222	1268	1337	1398	1414
32.5°	1177	1228	1303	1366	1385
35°	1129	1184	1263	1325	1346
37.5°	1080	1134	1212	1275	1296
40°	1026	1076	1151	1215	1237
42.5°	968	1007	1082	1143	1165
45°	902	933	1007	1057	1077
47.5°	828	858	929	964	975
50°	749	787	851	871	873
52.5°	670	718	769	780	787
55°	595	642	680	690	712
57.5°	525	560	584	595	634
60°	458	478	486	497	545
62.5°	396	404	393	411	457
65°	341	344	315	341	387
67.5°	298	297	249	286	326
70°	266	262	197	242	273
72.5°	240	232	163	208	231
75°	217	205	147	180	199
77.5°	193	178	139	156	173
80°	166	149	129	131	149
82.5°	137	124	110	104	118
85°	99	94	80	77	83
87.5°	51	57	46	47	46
90°	0	0	0	0	0

(END OF REPORT)