

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: 227P118

Luminaire Tested: **SM-228T5 (SM-2IN-SYM-4FT-REFL-B)(INV-SM)**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: 227P118  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: SM-228T5 (SM-2IN-SYM-4FT-REFL-B)(INV-SM)  
Description: Inverted SM Series Commercial Micro-Striplight with a solid symmetrical reflector.  
Light Source: Two - F28T5/835 - 2900 Lumens ea. - 28 Watts ea.  
Ballast/Driver: Magnetek BT5-228/120 Electronic - L.O.B.F.= 97.5%

**Summary**

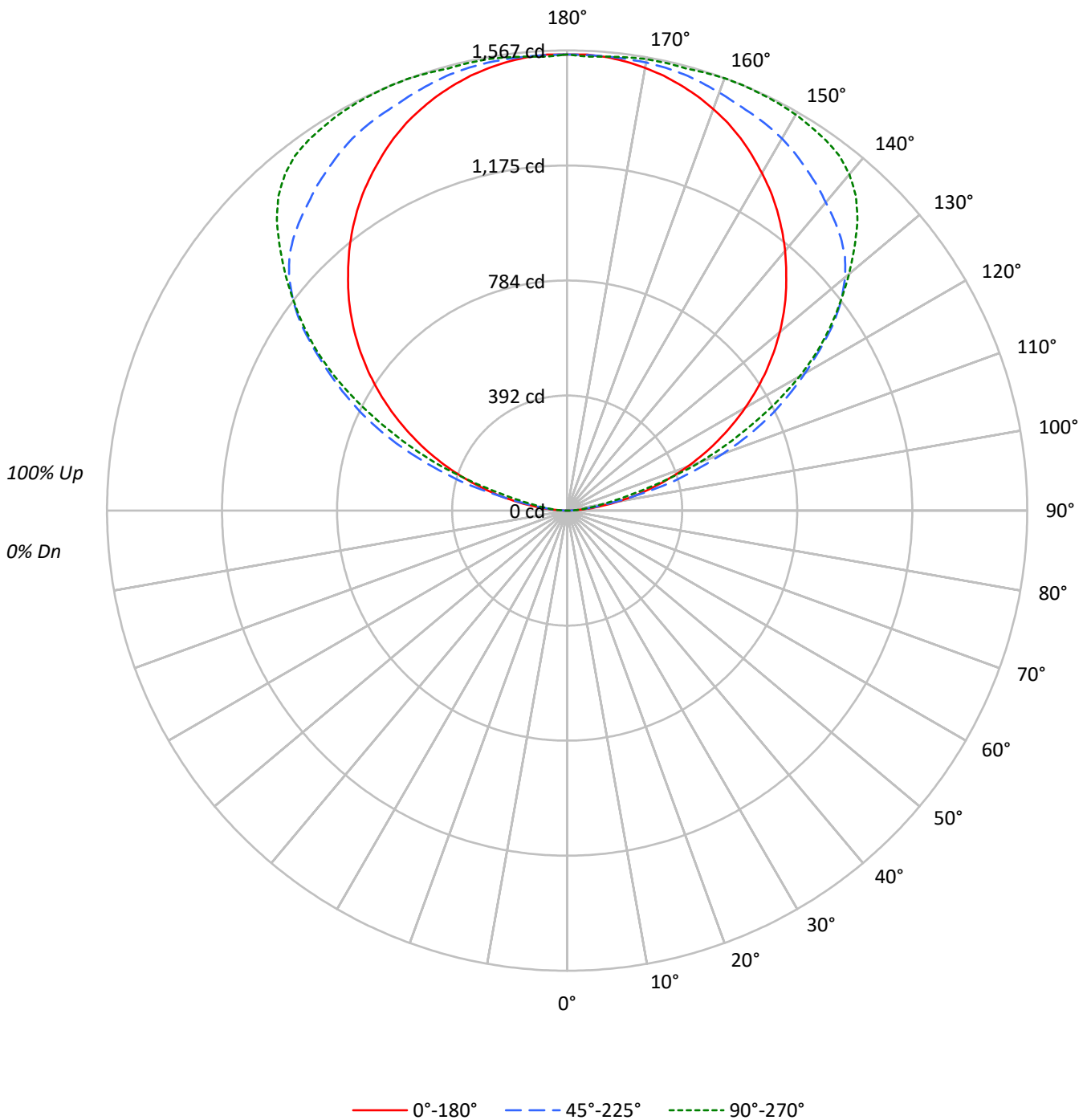
Lumens per Lamp: 2900 (2 lamps)  
Luminaire Lumens: 5194.4 lumens  
Efficiency: 89.6%  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): - / - / -  
Luminous Opening: Rectangular (W 0.38' x L: 3.76' x H: 0')  
CIE Type: Indirect

Input Watts (W): 63  
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				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	
RCR																					
0	85	85	85	85	73	73	73	73	50	50	50	29	29	29	9	9	9	0	0	0	0
1	78	74	71	68	66	63	61	58	43	42	40	25	24	23	8	8	8	0	0	0	0
2	71	64	59	55	60	55	51	48	38	35	33	22	21	20	7	7	6	0	0	0	0
3	64	57	51	46	55	48	44	40	33	30	28	19	18	16	6	6	5	0	0	0	0
4	59	50	43	38	50	43	37	33	29	26	24	17	15	14	5	5	5	0	0	0	0
5	54	44	37	33	46	38	32	28	26	23	20	15	13	12	5	4	4	0	0	0	0
6	49	39	33	28	42	34	28	24	23	20	17	13	12	10	4	4	3	0	0	0	0
7	45	35	29	24	38	30	25	21	21	17	15	12	10	9	4	3	3	0	0	0	0
8	42	32	25	21	35	27	22	18	19	15	13	11	9	8	4	3	3	0	0	0	0
9	39	29	22	18	33	25	19	16	17	14	11	10	8	7	3	3	2	0	0	0	0
10	36	26	20	16	31	22	17	14	16	12	10	9	7	6	3	2	2	0	0	0	0

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

	0°	45°	90°
0°	0	0	0
5°	0	0	0
10°	0	0	0
15°	0	0	0
20°	0	0	0
25°	0	0	0
30°	0	0	0
35°	0	0	0
40°	0	0	0
45°	0	0	0
50°	0	0	0
55°	0	0	0
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	0.0	0.0	0.0	0°	0	0	0	0	0	
10°-20°	0.0	0.0	0.0	5°	0	0	0	0	0	0
20°-30°	0.0	0.0	0.0	15°	0	0	0	0	0	0
30°-40°	0.0	0.0	0.0	25°	0	0	0	0	0	0
40°-50°	0.0	0.0	0.0	35°	0	0	0	0	0	0
50°-60°	0.0	0.0	0.0	45°	0	0	0	0	0	0
60°-70°	0.0	0.0	0.0	55°	0	0	0	0	0	0
70°-80°	0.0	0.0	0.0	65°	0	0	0	0	0	0
80°-90°	0.0	0.0	0.0	75°	0	0	0	0	0	0
90°-100°	73.5	1.4	1.3	85°	0	0	0	0	0	0
100°-110°	355.2	6.8	6.1	90°	0	0	0	0	0	3
110°-120°	708.7	13.6	12.2	95°	67	74	54	49	48	77
120°-130°	924.3	17.8	15.9	105°	300	412	358	281	260	318
130°-140°	980.6	18.9	16.9	115°	569	767	763	720	696	562
140°-150°	882.2	17.0	15.2	125°	827	982	1106	1098	1095	738
150°-160°	687.6	13.2	11.9	135°	1054	1162	1317	1393	1398	813
160°-170°	434.3	8.4	7.5	145°	1247	1308	1420	1512	1538	780
170°-180°	148.1	2.9	2.6	155°	1399	1432	1490	1553	1565	644
0°-30°	0.0	0.0	0.0	165°	1499	1511	1538	1562	1559	423
0°-40°	0.0	0.0	0.0	175°	1550	1547	1552	1559	1552	147
0°-60°	0.0	0.0	0.0	180°	1553	1553	1553	1553	1553	
0°-90°	0.0	0.0	0.0							
90°-120°	1137.4	21.9	19.6							
90°-150°	3924.5	75.6	67.7							
90°-180°	5194.0	100.0	89.6							
0°-180°	5194.4	100.0	89.6							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	0	0	0	0	0
2.5°	0	0	0	0	0
5°	0	0	0	0	0
7.5°	0	0	0	0	0
10°	0	0	0	0	0
12.5°	0	0	0	0	0
15°	0	0	0	0	0
17.5°	0	0	0	0	0
20°	0	0	0	0	0
22.5°	0	0	0	0	0
25°	0	0	0	0	0
27.5°	0	0	0	0	0
30°	0	0	0	0	0
32.5°	0	0	0	0	0
35°	0	0	0	0	0
37.5°	0	0	0	0	0
40°	0	0	0	0	0
42.5°	0	0	0	0	0
45°	0	0	0	0	0
47.5°	0	0	0	0	0
50°	0	0	0	0	0
52.5°	0	0	0	0	0
55°	0	0	0	0	0
57.5°	0	0	0	0	0
60°	0	0	0	0	0
62.5°	0	0	0	0	0
65°	0	0	0	0	0
67.5°	0	0	0	0	0
70°	0	0	0	0	0
72.5°	0	0	0	0	0
75°	0	0	0	0	0
77.5°	0	0	0	0	0
80°	0	0	0	0	0
82.5°	0	0	0	0	0
85°	0	0	0	0	0
87.5°	0	0	0	0	0
90°	0	0	0	0	0
92.5°	23	34	26	23	23
95°	67	74	54	49	48
97.5°	118	146	90	79	77
100°	175	235	156	120	113
102.5°	236	324	246	189	175
105°	300	412	358	281	260
107.5°	366	497	457	392	362
110°	434	596	563	505	481



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	502	690	667	610	588
115°	569	767	763	720	696
117.5°	635	829	850	828	807
120°	701	882	935	928	915
122.5°	764	933	1020	1015	1010
125°	827	982	1106	1098	1095
127.5°	887	1029	1177	1178	1175
130°	945	1075	1236	1257	1253
132.5°	1001	1120	1283	1333	1327
135°	1054	1162	1317	1393	1398
137.5°	1104	1199	1345	1441	1455
140°	1155	1236	1370	1475	1495
142.5°	1202	1272	1397	1497	1523
145°	1247	1308	1420	1512	1538
147.5°	1289	1342	1443	1525	1548
150°	1327	1374	1463	1537	1557
152.5°	1364	1404	1478	1545	1562
155°	1399	1432	1490	1553	1565
157.5°	1429	1457	1501	1557	1567
160°	1455	1478	1515	1557	1567
162.5°	1479	1496	1527	1558	1563
165°	1499	1511	1538	1562	1559
167.5°	1517	1524	1545	1564	1561
170°	1531	1534	1549	1564	1561
172.5°	1542	1542	1551	1563	1557
175°	1550	1547	1552	1559	1552
177.5°	1554	1551	1553	1556	1547
180°	1553	1553	1553	1553	1553

(END OF REPORT)