

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P184177

Luminaire Tested: **24FR-65-HP-UNV-L850-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P184177  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27148)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24FR-65-HP-UNV-L850-CD1-U  
Description: METALUX 2X4 FR TROFFER LED HIGH EFFICIENCY FIXTURE  
  
Light Source: EATON LED 5000K  
Ballast/Driver: OSRAM ELECTRONIC DRIVER

**Summary**

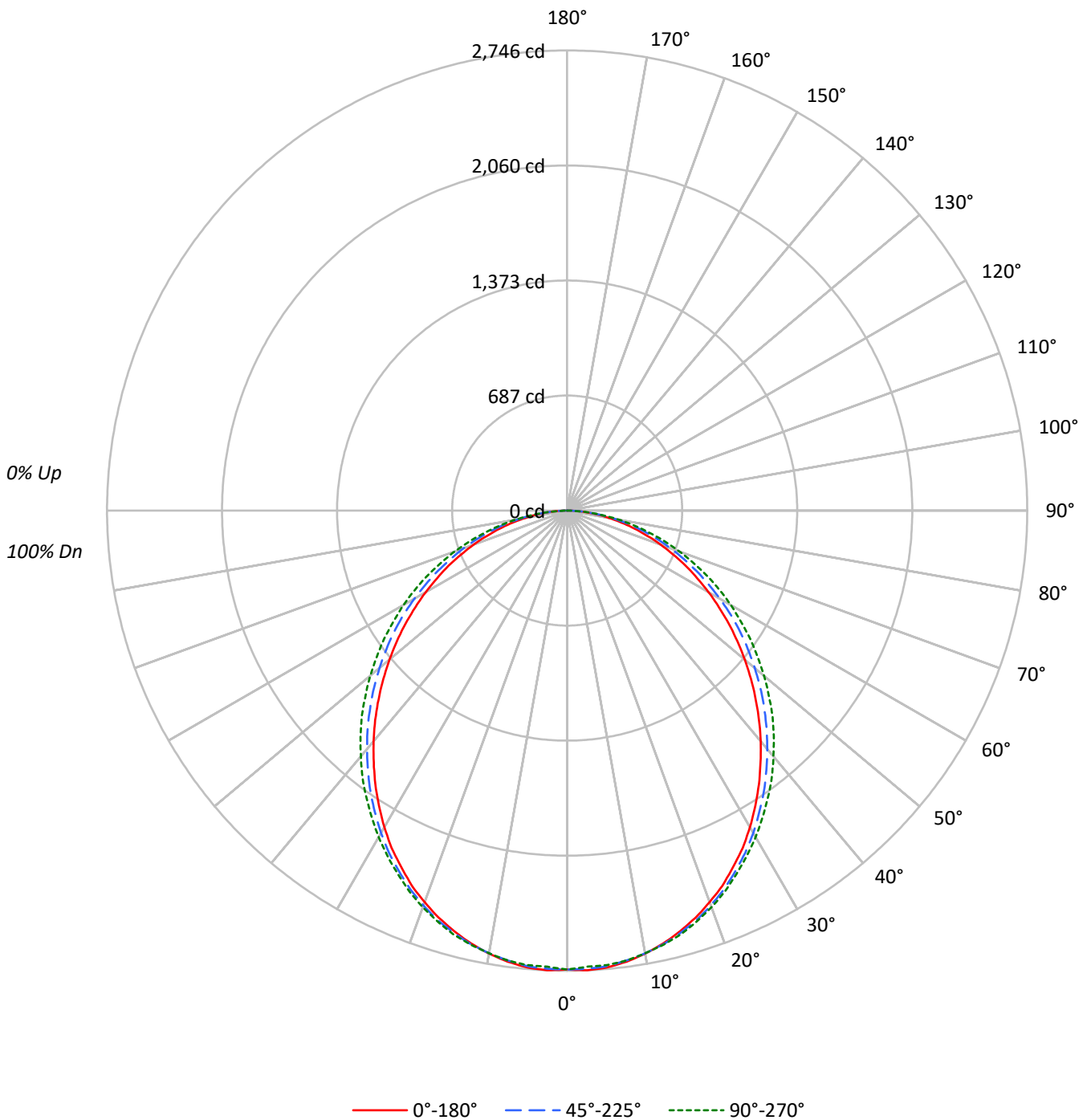
Lumens per Lamp: N/A  
Luminaire Lumens: 7241.6 lumens  
Efficiency: N/A  
Efficacy: 134.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.22 / 1.32  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	98	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	63	70	65	61	59
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	3685	3685	3685
5°	3696	3686	3677
10°	3668	3665	3665
15°	3621	3634	3647
20°	3560	3590	3607
25°	3481	3526	3551
30°	3389	3452	3496
35°	3277	3362	3432
40°	3156	3264	3363
45°	3028	3163	3298
50°	2896	3059	3212
55°	2764	2958	3129
60°	2624	2834	3037
65°	2488	2706	2932
70°	2331	2582	2805
75°	2160	2443	2639
80°	1976	2269	2415
85°	1786	1931	1931



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	258.6	3.6
10°-20°	734.7	10.1
20°-30°	1090.6	15.1
30°-40°	1276.3	17.6
40°-50°	1281.0	17.7
50°-60°	1122.1	15.5
60°-70°	842.2	11.6
70°-80°	494.9	6.8
80°-90°	141.1	1.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2083.9	28.8
0°-40°	3360.2	46.4
0°-60°	5763.3	79.6
0°-90°	7241.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7241.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2739	2739	2739	2739	2739	
5°	2736	2718	2729	2725	2722	259
15°	2600	2590	2609	2616	2618	733
25°	2344	2344	2375	2382	2392	1080
35°	1995	2002	2047	2073	2090	1247
45°	1591	1610	1662	1707	1733	1228
55°	1178	1199	1261	1306	1334	1053
65°	782	803	850	895	921	773
75°	416	439	470	494	508	442
85°	116	123	125	125	125	130
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2738.8	2738.8	2738.8	2738.8	2738.8
2.5°	2745.9	2729.4	2736.5	2734.1	2724.7
5°	2736.5	2717.6	2729.4	2724.7	2722.3
7.5°	2715.2	2696.3	2708.1	2708.1	2708.1
10°	2684.5	2670.4	2682.2	2682.2	2682.2
12.5°	2646.8	2635.0	2651.5	2653.8	2653.8
15°	2599.5	2590.1	2609.0	2616.1	2618.4
17.5°	2547.6	2540.5	2564.1	2571.2	2571.2
20°	2486.2	2481.5	2507.5	2514.5	2519.3
22.5°	2422.5	2415.4	2446.1	2450.8	2460.2
25°	2344.5	2344.5	2375.2	2382.3	2391.8
27.5°	2269.0	2266.6	2302.0	2313.8	2323.3
30°	2181.6	2181.6	2221.8	2238.3	2250.1
32.5°	2089.5	2096.6	2134.4	2155.7	2169.8
35°	1995.1	2002.2	2047.0	2073.0	2089.5
37.5°	1895.9	1907.7	1952.6	1985.7	2006.9
40°	1796.8	1813.3	1858.2	1895.9	1914.8
42.5°	1695.2	1709.4	1761.4	1803.9	1825.1
45°	1591.4	1610.3	1662.2	1707.1	1733.0
47.5°	1487.5	1511.1	1563.0	1612.6	1631.5
50°	1383.6	1404.8	1461.5	1511.1	1534.7
52.5°	1279.7	1300.9	1360.0	1407.2	1430.8
55°	1178.2	1199.4	1260.8	1305.7	1334.0
57.5°	1074.3	1097.9	1156.9	1204.1	1225.4
60°	975.1	996.4	1053.0	1100.3	1128.6
62.5°	876.0	899.6	949.2	998.7	1024.7
65°	781.5	802.8	850.0	894.8	920.8
67.5°	684.7	710.7	750.8	795.7	814.6
70°	592.6	621.0	656.4	694.2	713.0
72.5°	502.9	528.9	561.9	592.6	609.2
75°	415.5	439.2	469.9	493.5	507.6
77.5°	332.9	358.9	380.1	401.4	408.5
80°	255.0	276.2	292.8	306.9	311.7
82.5°	184.2	198.3	205.4	217.2	219.6
85°	115.7	122.8	125.1	125.1	125.1
87.5°	49.6	51.9	47.2	37.8	35.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)