

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: P184176

Luminaire Tested: **24FR-65-HP-UNV-L840-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P184176  
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-L840-CD1-U  
Description: METALUX 2X4 FR TROFFER LED HIGH EFFICIENCY FIXTURE  
  
Light Source: EATON LED 4000K  
Ballast/Driver: OSRAM ELECTRONIC DRIVER

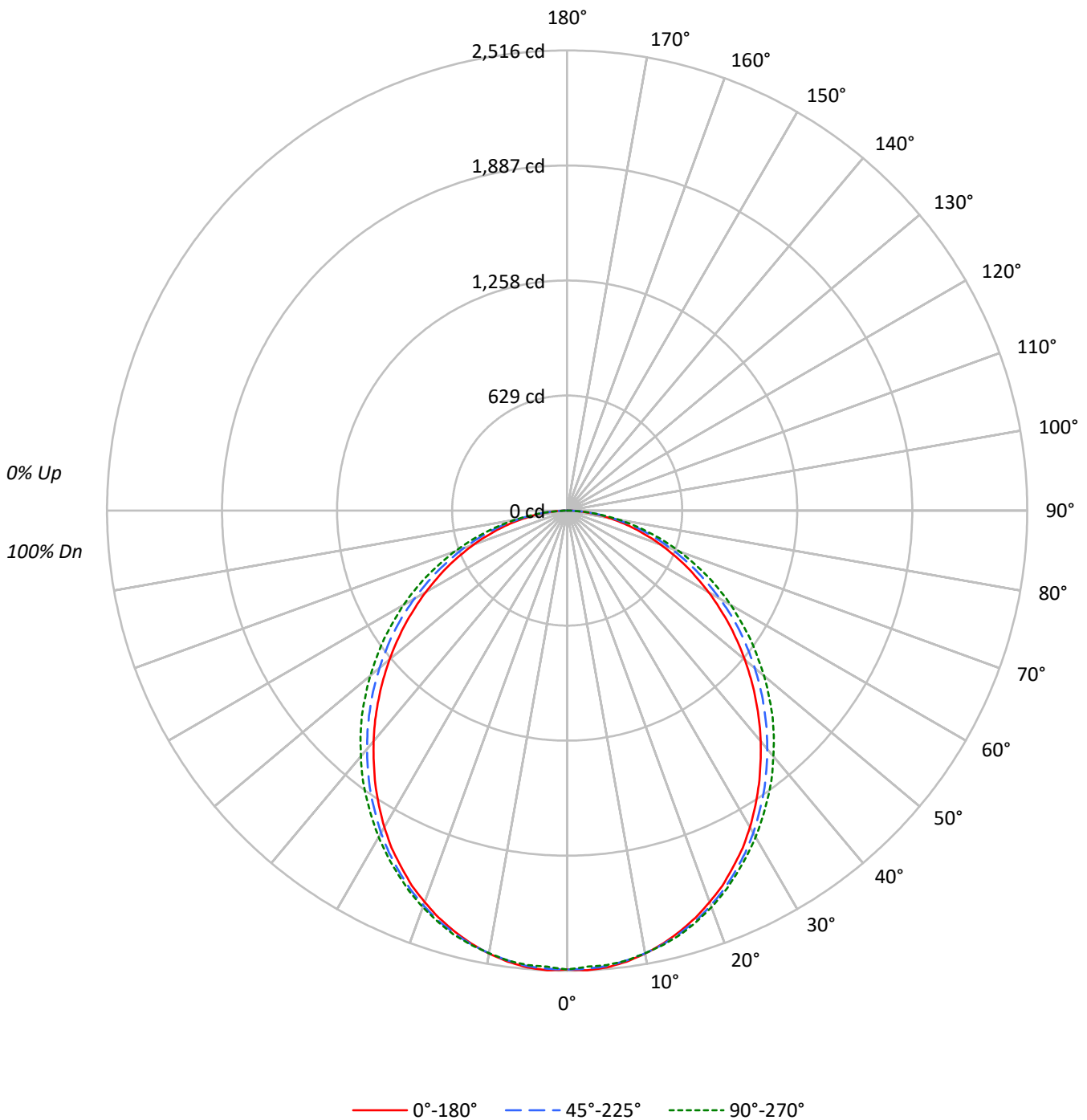
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6634.6 lumens  
Efficiency: N/A  
Efficacy: 123.3 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°	3376	3376	3376
5°	3386	3377	3369
10°	3360	3357	3357
15°	3318	3330	3342
20°	3261	3289	3305
25°	3189	3231	3253
30°	3105	3162	3203
35°	3002	3081	3144
40°	2891	2990	3081
45°	2774	2898	3021
50°	2653	2803	2943
55°	2532	2710	2867
60°	2404	2596	2782
65°	2280	2479	2686
70°	2136	2366	2570
75°	1979	2238	2418
80°	1810	2078	2212
85°	1636	1769	1769



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	237.0	3.6
10°-20°	673.1	10.1
20°-30°	999.2	15.1
30°-40°	1169.3	17.6
40°-50°	1173.7	17.7
50°-60°	1028.0	15.5
60°-70°	771.6	11.6
70°-80°	453.4	6.8
80°-90°	129.3	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°	1909.3	28.8
0°-40°	3078.6	46.4
0°-60°	5280.3	79.6
0°-90°	6634.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6634.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2509	2509	2509	2509	2509	
5°	2507	2490	2501	2496	2494	238
15°	2382	2373	2390	2397	2399	671
25°	2148	2148	2176	2183	2191	990
35°	1828	1834	1876	1899	1914	1142
45°	1458	1475	1523	1564	1588	1125
55°	1079	1099	1155	1196	1222	965
65°	716	736	779	820	844	709
75°	381	402	430	452	465	405
85°	106	112	115	115	115	119
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2509.3	2509.3	2509.3	2509.3	2509.3
2.5°	2515.8	2500.6	2507.1	2505.0	2496.3
5°	2507.1	2489.8	2500.6	2496.3	2494.1
7.5°	2487.7	2470.3	2481.2	2481.2	2481.2
10°	2459.5	2446.6	2457.4	2457.4	2457.4
12.5°	2424.9	2414.1	2429.2	2431.4	2431.4
15°	2381.7	2373.0	2390.3	2396.8	2399.0
17.5°	2334.1	2327.6	2349.2	2355.7	2355.7
20°	2277.8	2273.5	2297.3	2303.8	2308.1
22.5°	2219.4	2212.9	2241.1	2245.4	2254.0
25°	2148.0	2148.0	2176.2	2182.6	2191.3
27.5°	2078.8	2076.7	2109.1	2119.9	2128.6
30°	1998.8	1998.8	2035.5	2050.7	2061.5
32.5°	1914.4	1920.9	1955.5	1975.0	1988.0
35°	1827.9	1834.4	1875.5	1899.3	1914.4
37.5°	1737.0	1747.8	1788.9	1819.2	1838.7
40°	1646.2	1661.3	1702.4	1737.0	1754.3
42.5°	1553.2	1566.1	1613.7	1652.7	1672.1
45°	1458.0	1475.3	1522.9	1564.0	1587.8
47.5°	1362.8	1384.4	1432.0	1477.5	1494.8
50°	1267.6	1287.1	1339.0	1384.4	1406.1
52.5°	1172.4	1191.9	1246.0	1289.3	1310.9
55°	1079.4	1098.9	1155.1	1196.2	1222.2
57.5°	984.2	1005.9	1060.0	1103.2	1122.7
60°	893.4	912.9	964.8	1008.0	1034.0
62.5°	802.5	824.2	869.6	915.0	938.8
65°	716.0	735.5	778.7	819.8	843.6
67.5°	627.3	651.1	687.9	729.0	746.3
70°	543.0	568.9	601.4	636.0	653.3
72.5°	460.8	484.6	514.8	543.0	558.1
75°	380.7	402.4	430.5	452.1	465.1
77.5°	305.0	328.8	348.3	367.7	374.2
80°	233.6	253.1	268.2	281.2	285.5
82.5°	168.7	181.7	188.2	199.0	201.2
85°	106.0	112.5	114.6	114.6	114.6
87.5°	45.4	47.6	43.3	34.6	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)