

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: P184163

Luminaire Tested: **24FR-40-HP-UNV-L827-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P184163  
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-40-HP-UNV-L827-CD1-U  
Description: METALUX 2X4 FR TROFFER LED HIGH EFFICIENCY FIXTURE  
  
Light Source: EATON LED 2700K  
Ballast/Driver: OSRAM ELECTRONIC DRIVER

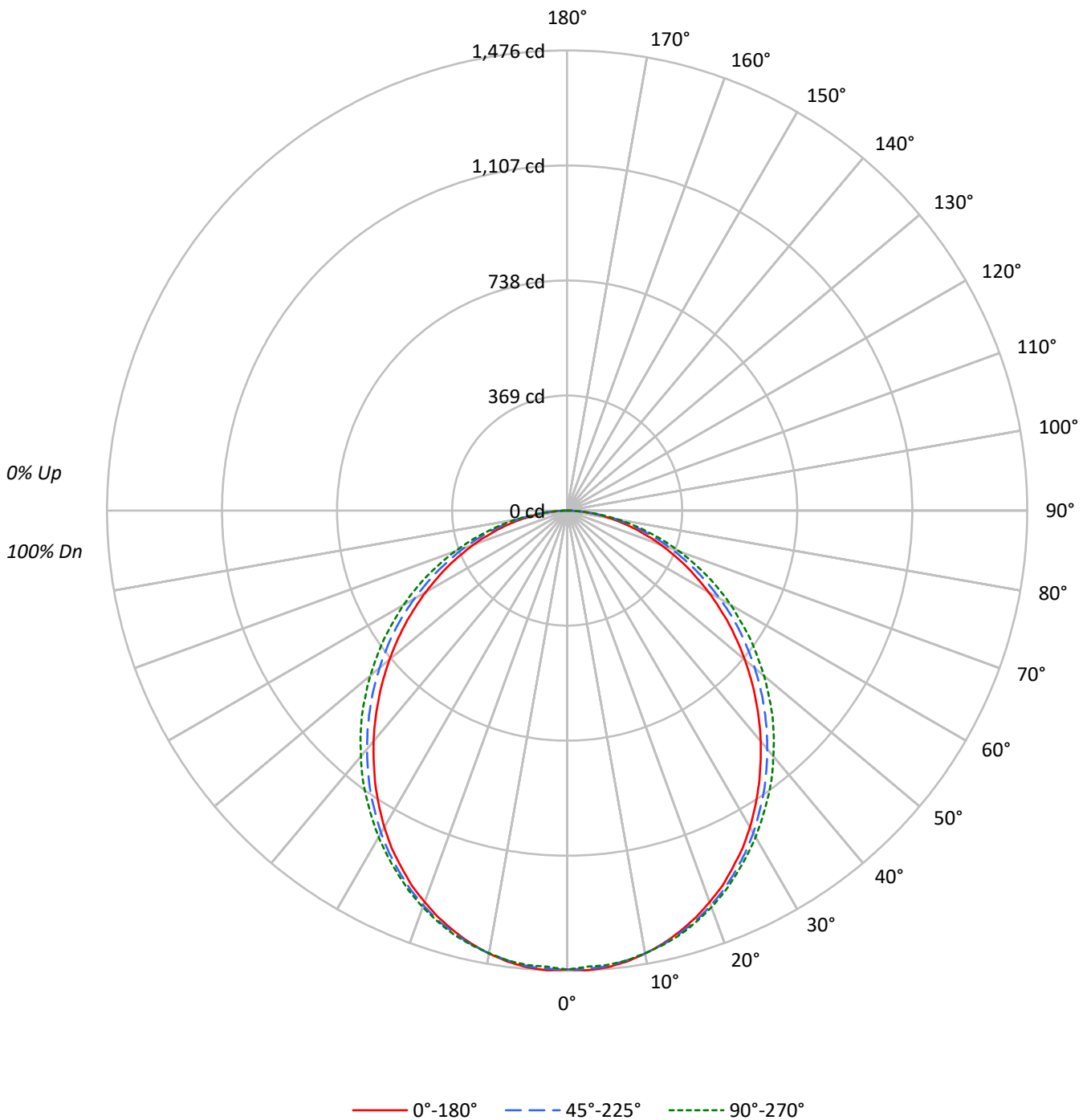
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3892.2 lumens  
Efficiency: N/A  
Efficacy: 124.3 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): 31.3  
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°	1981	1981	1981
5°	1987	1981	1976
10°	1971	1970	1970
15°	1946	1953	1960
20°	1913	1930	1939
25°	1871	1895	1908
30°	1822	1855	1879
35°	1761	1807	1845
40°	1696	1754	1808
45°	1627	1700	1772
50°	1557	1644	1727
55°	1485	1590	1682
60°	1410	1523	1632
65°	1337	1454	1576
70°	1253	1388	1507
75°	1161	1313	1418
80°	1062	1220	1298
85°	960	1039	1039



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.0	3.6
10°-20°	394.9	10.1
20°-30°	586.2	15.1
30°-40°	686.0	17.6
40°-50°	688.5	17.7
50°-60°	603.1	15.5
60°-70°	452.7	11.6
70°-80°	266.0	6.8
80°-90°	75.9	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°	1120.1	28.8
0°-40°	1806.0	46.4
0°-60°	3097.6	79.6
0°-90°	3892.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3892.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1472	1472	1472	1472	1472	
5°	1471	1461	1467	1464	1463	139
15°	1397	1392	1402	1406	1407	394
25°	1260	1260	1277	1280	1286	581
35°	1072	1076	1100	1114	1123	670
45°	855	866	893	918	932	660
55°	633	645	678	702	717	566
65°	420	432	457	481	495	416
75°	223	236	252	265	273	237
85°	62	66	67	67	67	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1472.0	1472.0	1472.0	1472.0	1472.0
2.5°	1475.9	1467.0	1470.8	1469.5	1464.4
5°	1470.8	1460.6	1467.0	1464.4	1463.2
7.5°	1459.4	1449.2	1455.6	1455.6	1455.6
10°	1442.9	1435.2	1441.6	1441.6	1441.6
12.5°	1422.6	1416.2	1425.1	1426.4	1426.4
15°	1397.2	1392.1	1402.3	1406.1	1407.3
17.5°	1369.3	1365.5	1378.1	1381.9	1381.9
20°	1336.3	1333.7	1347.7	1351.5	1354.0
22.5°	1302.0	1298.2	1314.7	1317.2	1322.3
25°	1260.1	1260.1	1276.6	1280.4	1285.5
27.5°	1219.5	1218.2	1237.3	1243.6	1248.7
30°	1172.6	1172.6	1194.1	1203.0	1209.4
32.5°	1123.1	1126.9	1147.2	1158.6	1166.2
35°	1072.3	1076.1	1100.2	1114.2	1123.1
37.5°	1019.0	1025.4	1049.5	1067.2	1078.7
40°	965.7	974.6	998.7	1019.0	1029.2
42.5°	911.1	918.8	946.7	969.5	980.9
45°	855.3	865.5	893.4	917.5	931.5
47.5°	799.5	812.2	840.1	866.7	876.9
50°	743.6	755.1	785.5	812.2	824.9
52.5°	687.8	699.2	730.9	756.3	769.0
55°	633.2	644.7	677.6	701.8	717.0
57.5°	577.4	590.1	621.8	647.2	658.6
60°	524.1	535.5	566.0	591.4	606.6
62.5°	470.8	483.5	510.1	536.8	550.7
65°	420.0	431.5	456.8	481.0	494.9
67.5°	368.0	382.0	403.5	427.7	437.8
70°	318.5	333.7	352.8	373.1	383.2
72.5°	270.3	284.3	302.0	318.5	327.4
75°	223.3	236.0	252.5	265.2	272.8
77.5°	178.9	192.9	204.3	215.7	219.5
80°	137.1	148.5	157.4	165.0	167.5
82.5°	99.0	106.6	110.4	116.7	118.0
85°	62.2	66.0	67.3	67.3	67.3
87.5°	26.6	27.9	25.4	20.3	19.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)