

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: P184164

Luminaire Tested: **24FR-40-HP-UNV-L830-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P184164
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-L830-CD1-U
Description: METALUX 2X4 FR TROFFER LED HIGH EFFICIENCY FIXTURE

Light Source: EATON LED 3000K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3978.8 lumens
Efficiency: N/A
Efficacy: 127.1 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

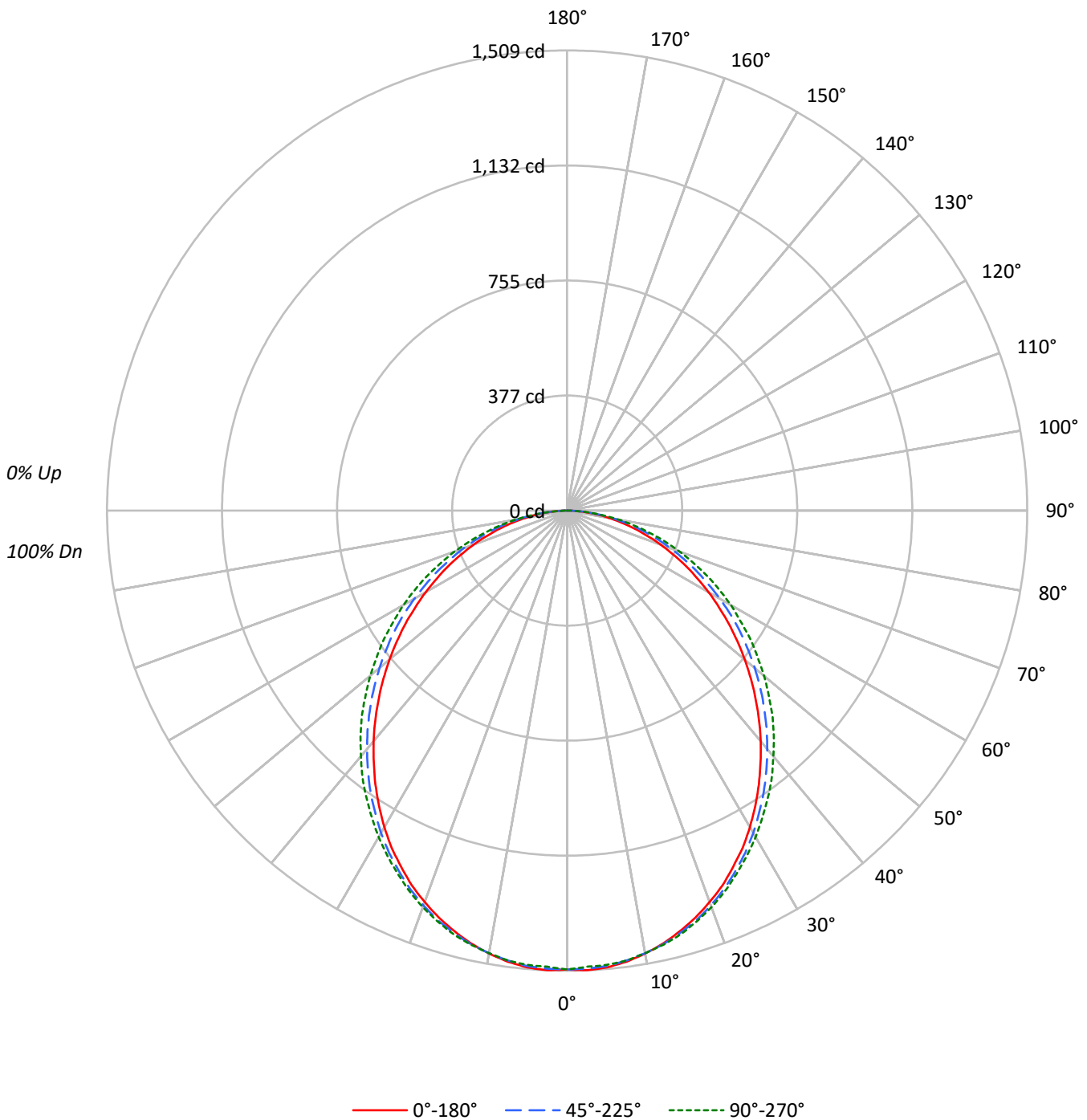
Input Watts (W): 31.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2025	2025	2025
5°	2031	2025	2020
10°	2015	2013	2013
15°	1990	1997	2004
20°	1956	1973	1982
25°	1912	1937	1951
30°	1862	1897	1921
35°	1801	1847	1886
40°	1734	1793	1848
45°	1664	1738	1812
50°	1591	1681	1765
55°	1518	1625	1719
60°	1442	1557	1669
65°	1367	1487	1611
70°	1281	1419	1541
75°	1187	1342	1450
80°	1086	1247	1327
85°	982	1062	1062



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.1	3.6
10°-20°	403.7	10.1
20°-30°	599.2	15.1
30°-40°	701.2	17.6
40°-50°	703.8	17.7
50°-60°	616.5	15.5
60°-70°	462.8	11.6
70°-80°	271.9	6.8
80°-90°	77.5	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°	1145.0	28.8
0°-40°	1846.2	46.4
0°-60°	3166.6	79.6
0°-90°	3978.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3978.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1505	1505	1505	1505	1505	
5°	1504	1493	1500	1497	1496	143
15°	1428	1423	1434	1437	1439	403
25°	1288	1288	1305	1309	1314	593
35°	1096	1100	1125	1139	1148	685
45°	874	885	913	938	952	675
55°	647	659	693	717	733	579
65°	429	441	467	492	506	425
75°	228	241	258	271	279	243
85°	64	68	69	69	69	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1504.8	1504.8	1504.8	1504.8	1504.8
2.5°	1508.7	1499.6	1503.5	1502.2	1497.0
5°	1503.5	1493.2	1499.6	1497.0	1495.7
7.5°	1491.9	1481.5	1488.0	1488.0	1488.0
10°	1475.0	1467.2	1473.7	1473.7	1473.7
12.5°	1454.2	1447.7	1456.8	1458.1	1458.1
15°	1428.3	1423.1	1433.5	1437.4	1438.7
17.5°	1399.7	1395.9	1408.8	1412.7	1412.7
20°	1366.0	1363.4	1377.7	1381.6	1384.2
22.5°	1331.0	1327.1	1344.0	1346.6	1351.7
25°	1288.2	1288.2	1305.0	1308.9	1314.1
27.5°	1246.7	1245.4	1264.8	1271.3	1276.5
30°	1198.7	1198.7	1220.7	1229.8	1236.3
32.5°	1148.1	1152.0	1172.7	1184.4	1192.2
35°	1096.2	1100.1	1124.7	1139.0	1148.1
37.5°	1041.7	1048.2	1072.8	1091.0	1102.7
40°	987.2	996.3	1020.9	1041.7	1052.1
42.5°	931.4	939.2	967.8	991.1	1002.8
45°	874.4	884.7	913.3	937.9	952.2
47.5°	817.3	830.2	858.8	886.0	896.4
50°	760.2	771.9	803.0	830.2	843.2
52.5°	703.1	714.8	747.2	773.2	786.1
55°	647.3	659.0	692.7	717.4	733.0
57.5°	590.3	603.2	635.7	661.6	673.3
60°	535.8	547.4	578.6	604.5	620.1
62.5°	481.3	494.3	521.5	548.7	563.0
65°	429.4	441.1	467.0	491.7	505.9
67.5°	376.2	390.5	412.5	437.2	447.6
70°	325.6	341.2	360.6	381.4	391.8
72.5°	276.3	290.6	308.7	325.6	334.7
75°	228.3	241.3	258.2	271.1	278.9
77.5°	182.9	197.2	208.9	220.5	224.4
80°	140.1	151.8	160.9	168.6	171.2
82.5°	101.2	109.0	112.9	119.3	120.6
85°	63.6	67.5	68.8	68.8	68.8
87.5°	27.2	28.5	25.9	20.8	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)