

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: P184166

Luminaire Tested: **24FR-40-HP-UNV-L840-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P184166
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-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: 4162.6 lumens
Efficiency: N/A
Efficacy: 133.0 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

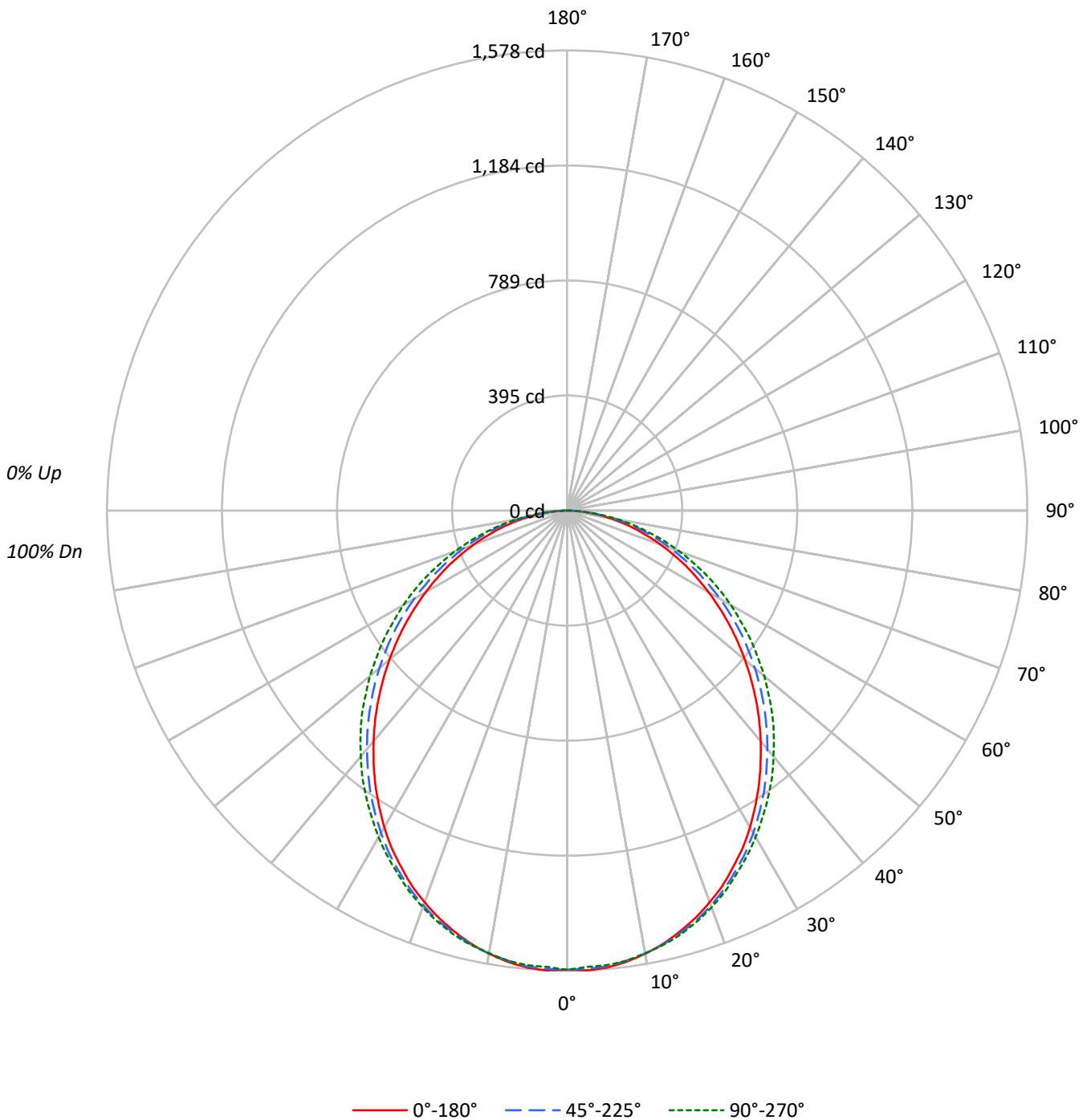
Input Watts (W): 31.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					100			
1	109	104	100	96	106	102	98	94	98	94	91	94	91	89	90	88	86	84					84			
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70					70			
3	90	80	72	65	88	78	71	65	75	69	64	73	67	63	70	65	61	59					59			
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54	63	57	53	51					51			
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44					44			
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39					39			
7	65	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2118	2118	2118
5°	2125	2119	2114
10°	2108	2106	2106
15°	2081	2089	2097
20°	2046	2064	2073
25°	2001	2027	2041
30°	1948	1984	2009
35°	1884	1933	1973
40°	1814	1876	1933
45°	1741	1818	1896
50°	1665	1759	1847
55°	1589	1700	1799
60°	1508	1629	1746
65°	1430	1556	1685
70°	1340	1484	1613
75°	1242	1404	1517
80°	1136	1304	1389
85°	1027	1110	1110



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.7	3.6
10°-20°	422.3	10.1
20°-30°	626.9	15.1
30°-40°	733.6	17.6
40°-50°	736.4	17.7
50°-60°	645.0	15.5
60°-70°	484.1	11.6
70°-80°	284.5	6.8
80°-90°	81.1	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°	1197.9	28.8
0°-40°	1931.5	46.4
0°-60°	3312.9	79.6
0°-90°	4162.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4162.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1574	1574	1574	1574	1574	
5°	1573	1562	1569	1566	1565	149
15°	1494	1489	1500	1504	1505	421
25°	1348	1348	1365	1369	1375	621
35°	1147	1151	1177	1192	1201	717
45°	915	926	956	981	996	706
55°	677	690	725	750	767	605
65°	449	461	489	514	529	445
75°	239	252	270	284	292	254
85°	66	71	72	72	72	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1574.4	1574.4	1574.4	1574.4	1574.4
2.5°	1578.4	1568.9	1573.0	1571.6	1566.2
5°	1573.0	1562.1	1568.9	1566.2	1564.9
7.5°	1560.8	1549.9	1556.7	1556.7	1556.7
10°	1543.1	1535.0	1541.8	1541.8	1541.8
12.5°	1521.4	1514.6	1524.1	1525.5	1525.5
15°	1494.3	1488.9	1499.7	1503.8	1505.1
17.5°	1464.4	1460.4	1473.9	1478.0	1478.0
20°	1429.1	1426.4	1441.3	1445.4	1448.1
22.5°	1392.5	1388.4	1406.1	1408.8	1414.2
25°	1347.7	1347.7	1365.3	1369.4	1374.8
27.5°	1304.3	1302.9	1323.3	1330.1	1335.5
30°	1254.1	1254.1	1277.1	1286.6	1293.4
32.5°	1201.1	1205.2	1226.9	1239.1	1247.3
35°	1146.8	1150.9	1176.7	1191.6	1201.1
37.5°	1089.8	1096.6	1122.4	1141.4	1153.6
40°	1032.8	1042.3	1068.1	1089.8	1100.7
42.5°	974.5	982.6	1012.5	1036.9	1049.1
45°	914.8	925.6	955.5	981.3	996.2
47.5°	855.0	868.6	898.5	927.0	937.8
50°	795.3	807.5	840.1	868.6	882.2
52.5°	735.6	747.8	781.7	808.9	822.5
55°	677.2	689.5	724.7	750.5	766.8
57.5°	617.5	631.1	665.0	692.2	704.4
60°	560.5	572.7	605.3	632.5	648.7
62.5°	503.5	517.1	545.6	574.1	589.0
65°	449.2	461.4	488.6	514.4	529.3
67.5°	393.6	408.5	431.6	457.4	468.2
70°	340.7	356.9	377.3	399.0	409.9
72.5°	289.1	304.0	323.0	340.7	350.2
75°	238.9	252.4	270.1	283.7	291.8
77.5°	191.4	206.3	218.5	230.7	234.8
80°	146.6	158.8	168.3	176.4	179.2
82.5°	105.9	114.0	118.1	124.9	126.2
85°	66.5	70.6	71.9	71.9	71.9
87.5°	28.5	29.9	27.1	21.7	20.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)