

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: P474485

Luminaire Tested: **24CZ2-45VHE-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474485
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-45VHE-HRP-UNV-L840-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP
INSERT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3760.2 lumens
Efficiency: N/A
Efficacy: 122.5 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

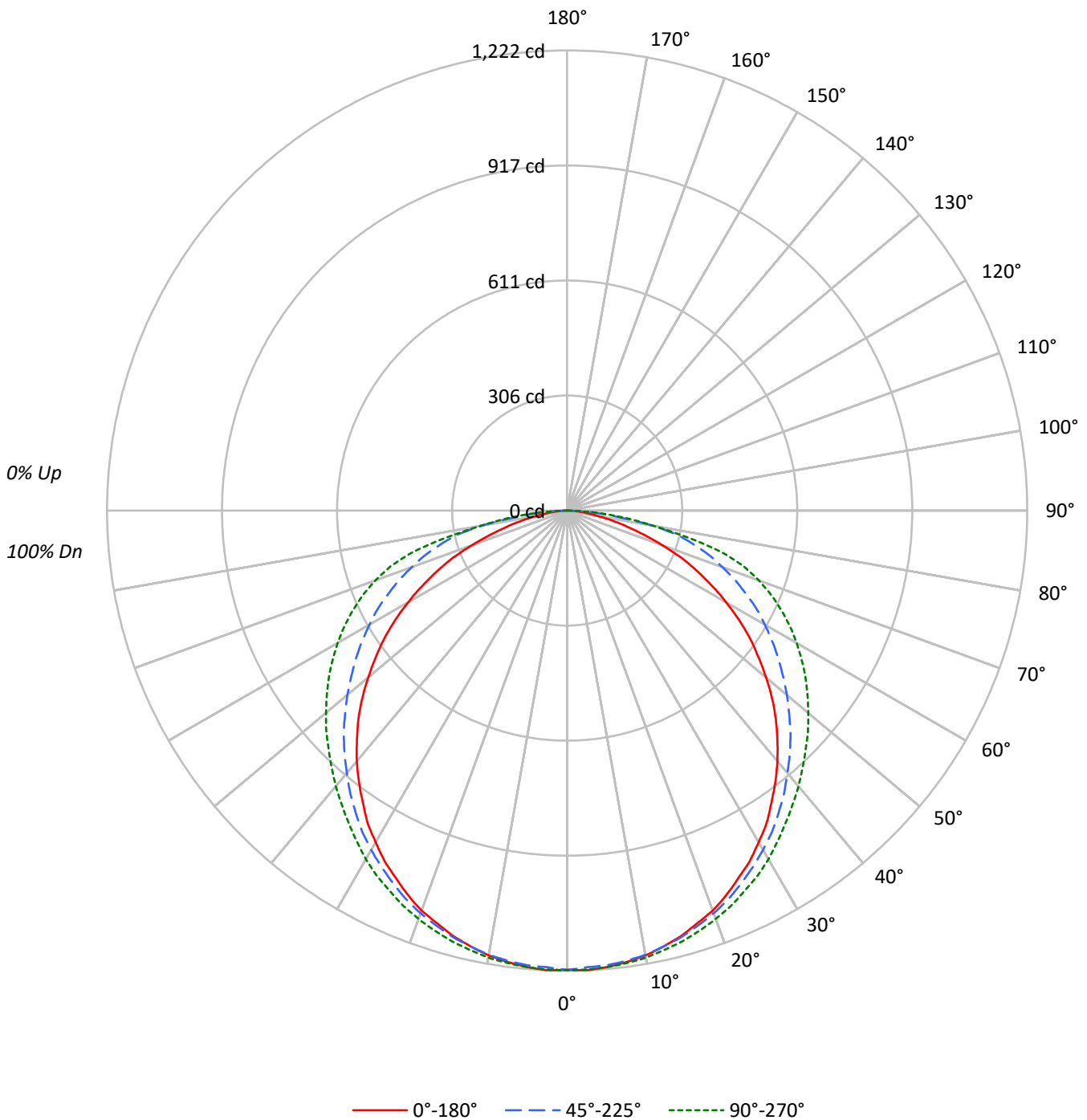
Input Watts (W): 30.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1641	1641	1641
5°	1644	1637	1644
10°	1639	1637	1647
15°	1629	1634	1649
20°	1618	1630	1652
25°	1598	1622	1655
30°	1580	1617	1661
35°	1554	1608	1663
40°	1526	1598	1678
45°	1492	1596	1704
50°	1443	1595	1750
55°	1392	1606	1813
60°	1313	1631	1893
65°	1213	1669	2000
70°	1059	1727	2131
75°	859	1817	2202
80°	635	1781	1781
85°	486	1312	1482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.6	3.1
10°-20°	331.9	8.8
20°-30°	505.2	13.4
30°-40°	613.5	16.3
40°-50°	648.2	17.2
50°-60°	611.6	16.3
60°-70°	508.5	13.5
70°-80°	334.6	8.9
80°-90°	91.2	2.4
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°	952.7	25.3
0°-40°	1566.2	41.7
0°-60°	2825.9	75.2
0°-90°	3760.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3760.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1220	1220	1220	1220	1220	
5°	1217	1217	1212	1217	1217	116
15°	1170	1171	1173	1184	1184	330
25°	1077	1083	1092	1111	1114	497
35°	946	957	979	1004	1012	592
45°	784	800	839	880	896	604
55°	593	619	685	749	773	529
65°	381	425	524	601	628	377
75°	165	241	350	414	424	178
85°	32	69	85	94	96	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1220.0	1220.0	1220.0	1220.0	1220.0
2.5°	1221.6	1220.0	1213.7	1220.0	1220.0
5°	1216.9	1216.9	1212.1	1216.9	1216.9
7.5°	1209.0	1209.0	1205.8	1212.1	1212.1
10°	1199.5	1199.5	1198.0	1205.8	1205.8
12.5°	1185.4	1186.9	1185.4	1194.8	1194.8
15°	1169.6	1171.2	1172.8	1183.8	1183.8
17.5°	1149.2	1152.3	1155.5	1168.0	1169.6
20°	1130.3	1131.8	1138.1	1152.3	1153.9
22.5°	1105.1	1109.8	1117.7	1131.8	1136.6
25°	1076.7	1083.0	1092.5	1111.4	1114.5
27.5°	1050.0	1054.7	1067.3	1087.8	1094.1
30°	1016.9	1024.8	1040.5	1061.0	1068.9
32.5°	985.4	993.3	1012.2	1034.2	1040.5
35°	946.1	957.1	979.1	1004.3	1012.2
37.5°	908.3	919.3	946.1	974.4	983.9
40°	868.9	881.5	909.9	942.9	955.5
42.5°	826.4	843.7	875.2	911.4	925.6
45°	783.9	799.8	839.0	879.9	895.7
47.5°	738.4	757.3	799.8	848.5	867.5
50°	689.6	713.2	761.9	815.4	835.9
52.5°	640.8	667.4	722.5	782.3	804.4
55°	593.4	618.6	684.7	749.3	772.9
57.5°	541.6	573.1	645.5	714.6	738.4
60°	487.9	522.7	606.0	678.4	703.6
62.5°	434.5	473.9	568.2	640.8	667.4
65°	381.0	425.1	524.3	601.4	628.2
67.5°	328.9	377.7	483.2	560.5	587.1
70°	269.2	330.6	439.1	514.8	541.6
72.5°	214.1	285.0	396.6	467.6	491.2
75°	165.3	240.9	349.5	413.9	423.5
77.5°	121.2	196.8	300.7	322.6	324.3
80°	81.9	157.4	229.9	226.7	229.9
82.5°	53.5	118.1	144.8	162.2	163.7
85°	31.5	69.3	85.0	94.5	96.0
87.5°	15.7	23.6	29.9	31.5	34.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)