

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: P474435

Luminaire Tested: **24CZ2-45VHE-HRP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474435
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-L835-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP
INSERT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3690.1 lumens
Efficiency: N/A
Efficacy: 120.2 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

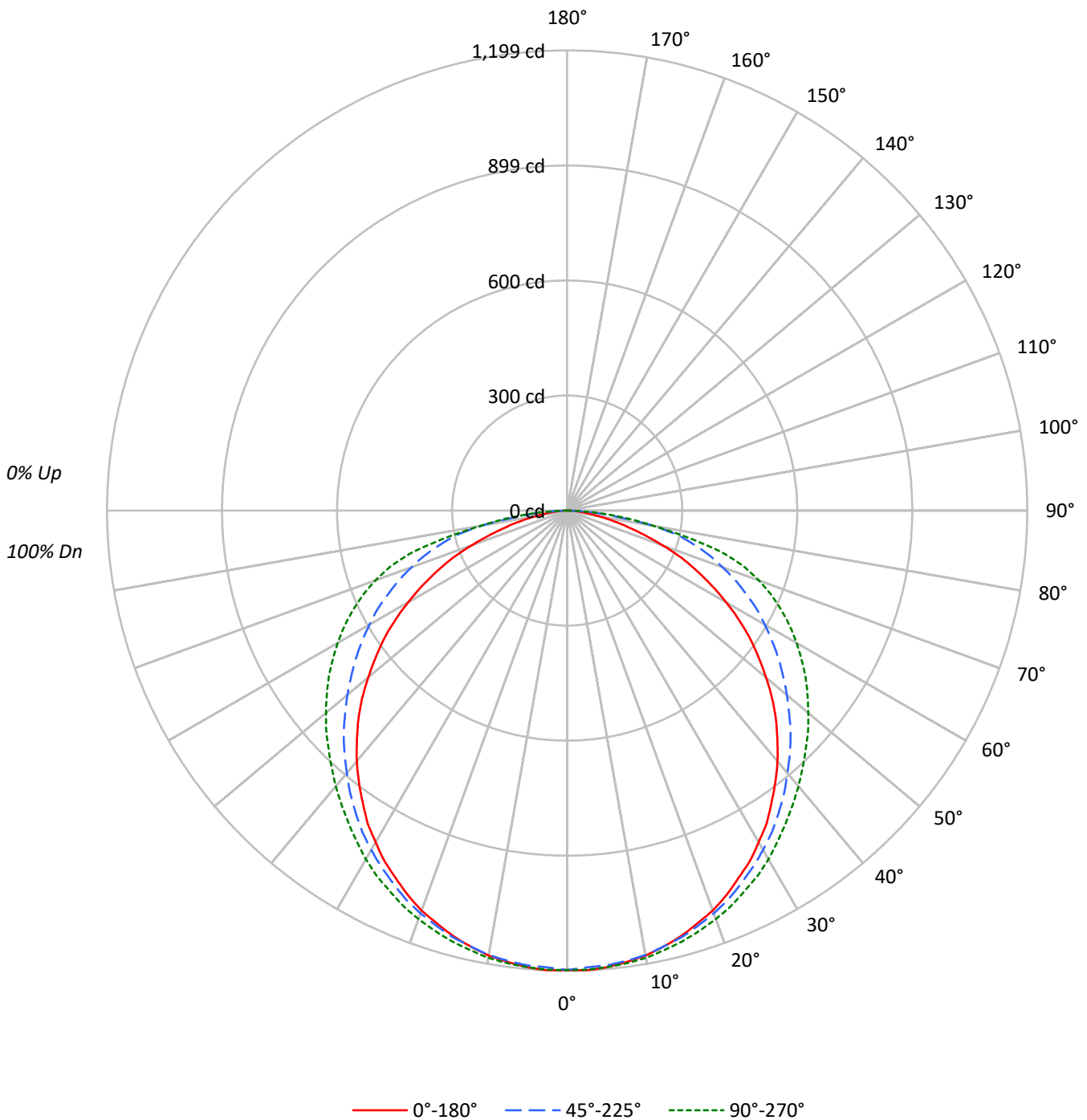
Input Watts (W): 30.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1611	1611	1611
5°	1613	1607	1613
10°	1608	1606	1617
15°	1599	1603	1618
20°	1588	1599	1621
25°	1569	1592	1624
30°	1550	1586	1630
35°	1525	1578	1632
40°	1498	1568	1647
45°	1464	1567	1673
50°	1416	1565	1717
55°	1366	1576	1779
60°	1288	1600	1858
65°	1190	1638	1963
70°	1039	1695	2091
75°	843	1783	2161
80°	623	1748	1748
85°	477	1288	1454



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.4	3.1
10°-20°	325.7	8.8
20°-30°	495.8	13.4
30°-40°	602.0	16.3
40°-50°	636.1	17.2
50°-60°	600.2	16.3
60°-70°	499.0	13.5
70°-80°	328.3	8.9
80°-90°	89.5	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°	934.9	25.3
0°-40°	1537.0	41.7
0°-60°	2773.2	75.2
0°-90°	3690.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3690.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1197	1197	1197	1197	1197	
5°	1194	1194	1190	1194	1194	113
15°	1148	1149	1151	1162	1162	324
25°	1057	1063	1072	1091	1094	487
35°	928	939	961	986	993	581
45°	769	785	823	864	879	592
55°	582	607	672	735	758	519
65°	374	417	514	590	616	370
75°	162	236	343	406	416	175
85°	31	68	83	93	94	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1197.2	1197.2	1197.2	1197.2	1197.2
2.5°	1198.8	1197.2	1191.1	1197.2	1197.2
5°	1194.2	1194.2	1189.5	1194.2	1194.2
7.5°	1186.5	1186.5	1183.3	1189.5	1189.5
10°	1177.1	1177.1	1175.7	1183.3	1183.3
12.5°	1163.3	1164.7	1163.3	1172.5	1172.5
15°	1147.8	1149.4	1150.9	1161.7	1161.7
17.5°	1127.8	1130.8	1134.0	1146.2	1147.8
20°	1109.2	1110.7	1116.9	1130.8	1132.4
22.5°	1084.5	1089.1	1096.9	1110.7	1115.4
25°	1056.6	1062.8	1072.1	1090.7	1093.7
27.5°	1030.4	1035.0	1047.4	1067.5	1073.7
30°	997.9	1005.7	1021.1	1041.2	1049.0
32.5°	967.0	974.8	993.3	1014.9	1021.1
35°	928.5	939.3	960.8	985.6	993.3
37.5°	891.4	902.2	928.5	956.2	965.6
40°	852.7	865.1	893.0	925.3	937.7
42.5°	811.0	828.0	858.9	894.4	908.4
45°	769.3	784.8	823.4	863.5	879.0
47.5°	724.6	743.1	784.8	832.7	851.3
50°	676.7	699.9	747.7	800.2	820.4
52.5°	628.8	655.0	709.1	767.7	789.4
55°	582.4	607.1	672.0	735.4	758.5
57.5°	531.5	562.4	633.4	701.3	724.6
60°	478.8	512.9	594.7	665.8	690.5
62.5°	426.4	465.0	557.6	628.8	655.0
65°	373.9	417.2	514.5	590.1	616.5
67.5°	322.8	370.7	474.2	550.0	576.2
70°	264.2	324.4	430.9	505.2	531.5
72.5°	210.1	279.7	389.2	458.9	482.0
75°	162.2	236.4	343.0	406.2	415.6
77.5°	118.9	193.1	295.1	316.6	318.2
80°	80.4	154.4	225.6	222.5	225.6
82.5°	52.5	115.9	142.1	159.2	160.6
85°	30.9	68.0	83.4	92.8	94.2
87.5°	15.4	23.1	29.3	30.9	33.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)