

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: P474503

Luminaire Tested: **24CZ2-145VHE-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474503
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-145VHE-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: 11976.5 lumens
Efficiency: N/A
Efficacy: 113.7 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

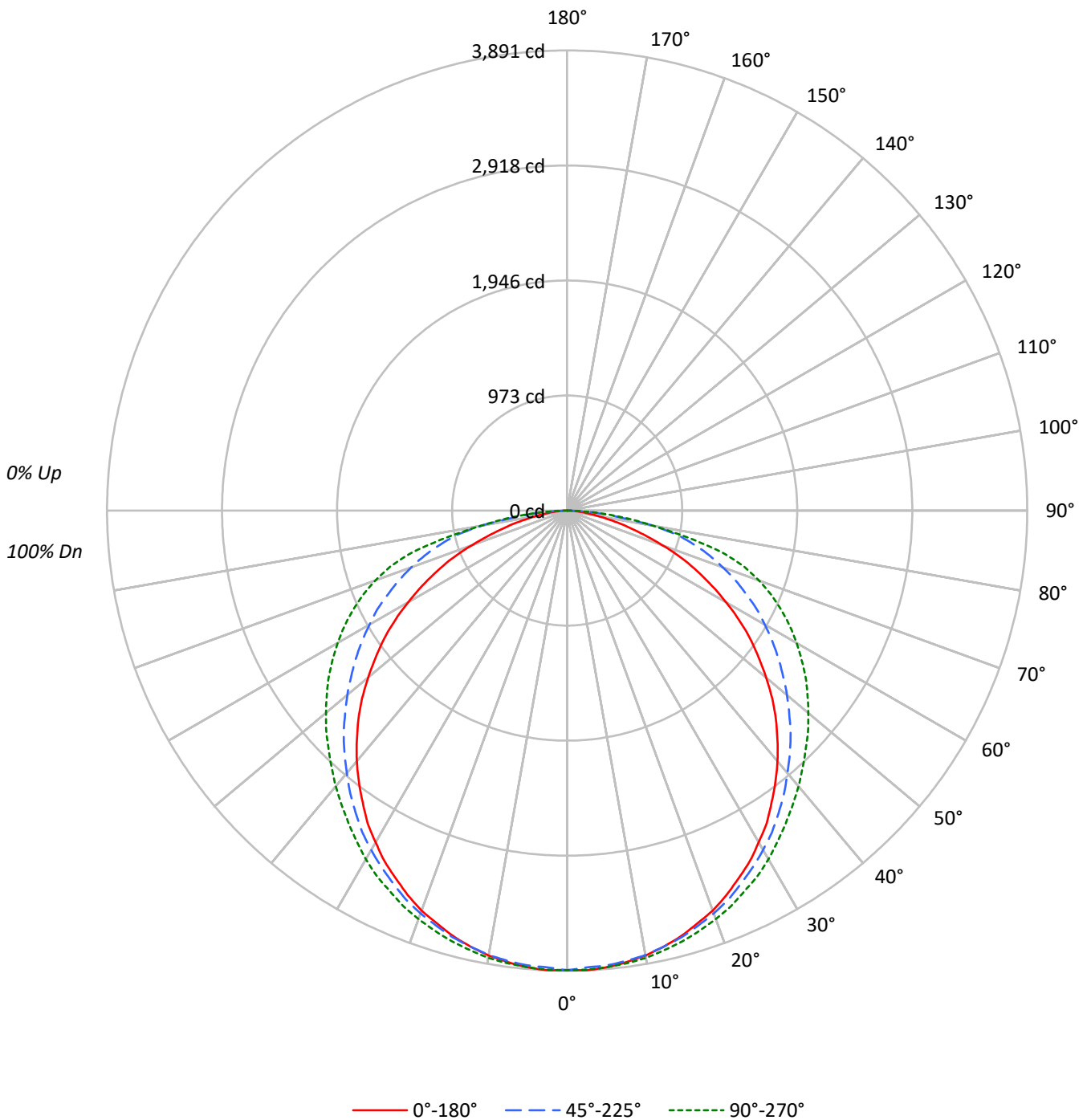
Input Watts (W): 105.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	5228	5228	5228
5°	5235	5214	5235
10°	5220	5213	5247
15°	5189	5203	5252
20°	5155	5190	5262
25°	5091	5166	5270
30°	5032	5149	5290
35°	4950	5122	5296
40°	4861	5090	5345
45°	4751	5085	5429
50°	4597	5080	5573
55°	4434	5116	5775
60°	4182	5194	6031
65°	3863	5316	6370
70°	3373	5502	6786
75°	2737	5787	7012
80°	2022	5674	5674
85°	1548	4179	4719



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	368.1	3.1
10°-20°	1057.1	8.8
20°-30°	1609.2	13.4
30°-40°	1954.0	16.3
40°-50°	2064.4	17.2
50°-60°	1948.0	16.3
60°-70°	1619.7	13.5
70°-80°	1065.6	8.9
80°-90°	290.5	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°	3034.4	25.3
0°-40°	4988.4	41.7
0°-60°	9000.8	75.2
0°-90°	11976.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11976.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3886	3886	3886	3886	3886	
5°	3876	3876	3860	3876	3876	368
15°	3725	3730	3736	3770	3770	1051
25°	3429	3449	3480	3540	3550	1582
35°	3014	3048	3118	3199	3224	1886
45°	2497	2547	2672	2802	2853	1923
55°	1890	1970	2181	2387	2462	1684
65°	1213	1354	1670	1915	2001	1199
75°	526	767	1113	1318	1349	567
85°	100	221	271	301	306	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3885.7	3885.7	3885.7	3885.7	3885.7
2.5°	3890.9	3885.7	3865.7	3885.7	3885.7
5°	3876.0	3876.0	3860.5	3876.0	3876.0
7.5°	3850.8	3850.8	3840.5	3860.5	3860.5
10°	3820.4	3820.4	3815.8	3840.5	3840.5
12.5°	3775.6	3780.3	3775.6	3805.5	3805.5
15°	3725.2	3730.3	3735.5	3770.5	3770.5
17.5°	3660.4	3670.1	3680.4	3720.0	3725.2
20°	3600.1	3604.8	3624.8	3670.1	3675.3
22.5°	3519.9	3534.8	3560.0	3604.8	3620.2
25°	3429.3	3449.4	3479.7	3539.9	3549.7
27.5°	3344.4	3359.3	3399.5	3464.8	3484.9
30°	3238.9	3264.1	3314.0	3379.4	3404.6
32.5°	3138.5	3163.8	3224.0	3294.0	3314.0
35°	3013.5	3048.5	3118.5	3198.8	3224.0
37.5°	2893.1	2928.1	3013.5	3103.6	3133.9
40°	2767.5	2807.7	2898.2	3003.2	3043.3
42.5°	2632.2	2687.2	2787.6	2902.9	2948.1
45°	2496.8	2547.3	2672.3	2802.5	2852.9
47.5°	2351.7	2411.9	2547.3	2702.7	2762.9
50°	2196.3	2271.4	2426.9	2597.2	2662.5
52.5°	2040.9	2125.8	2301.3	2491.7	2562.2
55°	1890.1	1970.4	2180.9	2386.7	2461.8
57.5°	1724.9	1825.3	2055.8	2276.1	2351.7
60°	1554.1	1664.7	1930.3	2160.8	2241.1
62.5°	1383.8	1509.3	1809.9	2040.9	2125.8
65°	1213.4	1353.9	1669.9	1915.3	2000.8
67.5°	1047.7	1203.1	1539.2	1785.1	1870.1
70°	857.3	1052.9	1398.7	1639.5	1724.9
72.5°	681.8	907.8	1263.3	1489.3	1564.4
75°	526.4	767.3	1113.1	1318.4	1348.8
77.5°	386.0	626.8	957.7	1027.7	1032.8
80°	260.9	501.2	732.3	722.0	732.3
82.5°	170.3	376.2	461.1	516.7	521.3
85°	100.3	220.8	270.7	301.0	305.7
87.5°	49.9	75.1	95.2	100.3	110.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)