

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: P474653

Luminaire Tested: **24CZ2-145VHE-SQR-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474653  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-145VHE-SQR-UNV-L835-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

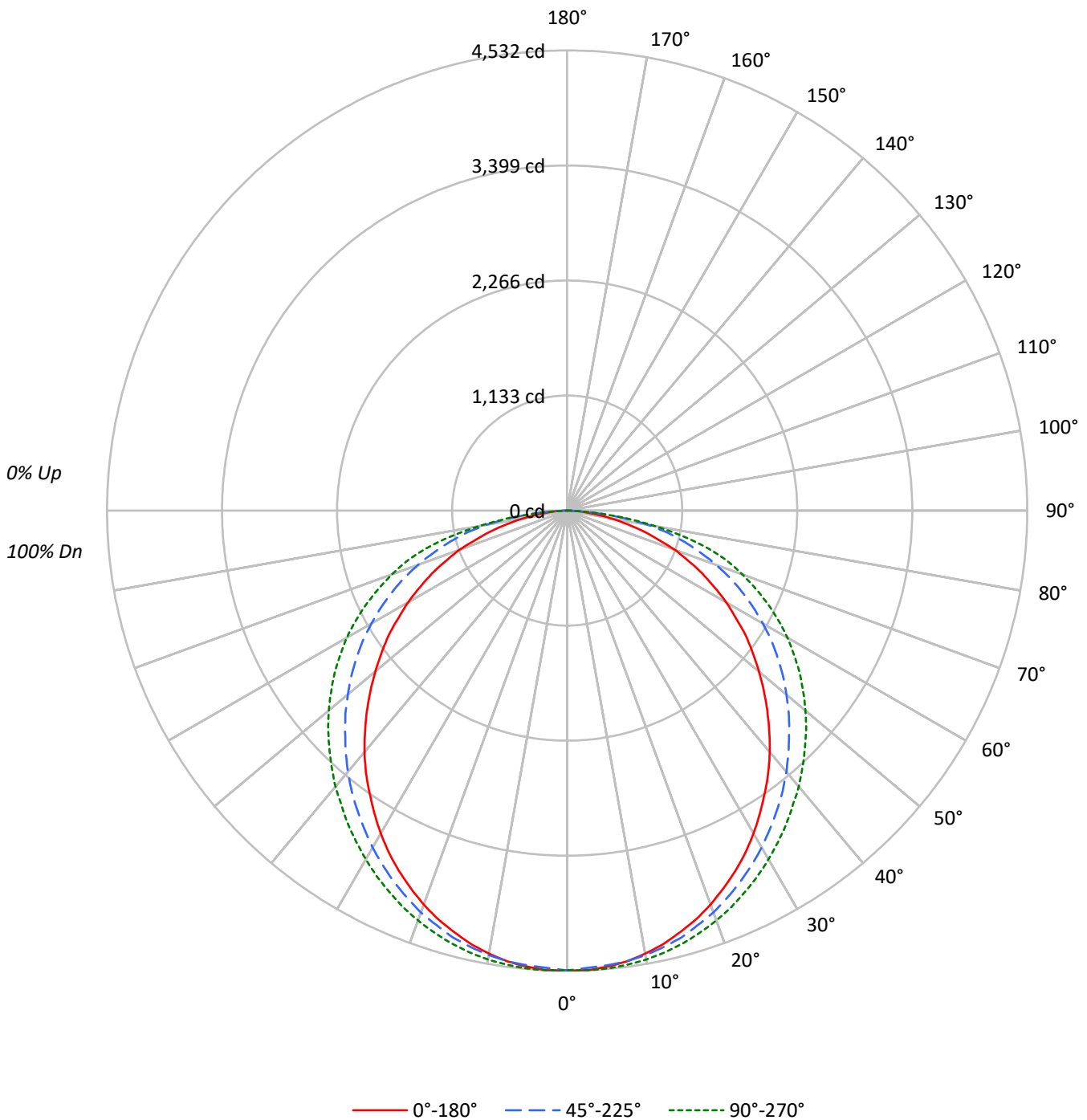
Lumens per Lamp: N/A  
Luminaire Lumens: 13783.4 lumens  
Efficiency: N/A  
Efficacy: 130.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 105.3  
Input Voltage (V): 120  
Input Current (Ain): 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	87	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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	25	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12183	12183	12183
5°	12182	12146	12230
10°	12106	12148	12269
15°	11975	12122	12288
20°	11824	12063	12303
25°	11631	11978	12305
30°	11406	11906	12323
35°	11148	11834	12370
40°	10907	11796	12469
45°	10609	11766	12604
50°	10325	11800	12832
55°	10083	11881	13120
60°	9742	11970	13487
65°	9352	12115	13895
70°	8870	12283	14449
75°	7944	12455	14927
80°	6688	12489	13547
85°	4962	9451	8908



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	429.1	3.1
10°-20°	1229.6	8.9
20°-30°	1861.4	13.5
30°-40°	2251.7	16.3
40°-50°	2376.8	17.2
50°-60°	2241.4	16.3
60°-70°	1847.9	13.4
70°-80°	1212.2	8.8
80°-90°	333.3	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°	3520.0	25.5
0°-40°	5771.7	41.9
0°-60°	10390.0	75.4
0°-90°	13783.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13783.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4527	4527	4527	4527	4527	
5°	4510	4510	4497	4527	4527	428
15°	4298	4323	4351	4402	4411	1213
25°	3917	3966	4034	4118	4144	1804
35°	3393	3481	3602	3726	3766	2124
45°	2788	2913	3092	3257	3312	2151
55°	2149	2301	2532	2722	2797	1915
65°	1469	1645	1903	2105	2182	1450
75°	764	960	1198	1387	1436	807
85°	161	278	306	297	288	199
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4527.4	4527.4	4527.4	4527.4	4527.4
2.5°	4531.8	4527.4	4507.6	4534.0	4531.8
5°	4509.8	4509.8	4496.6	4527.4	4527.4
7.5°	4479.0	4481.2	4476.8	4512.0	4512.0
10°	4430.5	4439.3	4445.9	4485.6	4490.0
12.5°	4373.3	4388.7	4401.9	4450.3	4454.7
15°	4298.4	4322.6	4351.2	4401.9	4410.7
17.5°	4221.3	4249.9	4280.8	4346.8	4357.8
20°	4128.8	4161.9	4212.5	4278.6	4296.2
22.5°	4025.3	4071.6	4124.4	4203.7	4225.7
25°	3917.4	3965.9	4034.1	4117.8	4144.2
27.5°	3800.7	3858.0	3935.1	4031.9	4060.6
30°	3670.8	3736.9	3831.6	3935.1	3965.9
32.5°	3534.3	3611.4	3717.1	3831.6	3866.8
35°	3393.4	3481.4	3602.5	3725.9	3765.5
37.5°	3254.6	3342.7	3485.8	3615.8	3653.2
40°	3104.9	3201.8	3358.1	3496.8	3549.7
42.5°	2946.3	3060.8	3226.0	3380.1	3430.8
45°	2787.8	2913.3	3091.7	3256.8	3311.9
47.5°	2627.0	2765.8	2961.8	3129.1	3193.0
50°	2466.3	2613.8	2818.6	2999.2	3065.2
52.5°	2303.3	2457.5	2679.9	2871.5	2930.9
55°	2149.2	2301.1	2532.4	2721.7	2796.6
57.5°	1970.8	2142.6	2387.0	2578.6	2651.3
60°	1810.1	1977.4	2224.1	2426.7	2505.9
62.5°	1636.1	1807.9	2067.7	2270.3	2347.4
65°	1468.8	1644.9	1902.6	2105.2	2182.2
67.5°	1288.2	1473.2	1737.4	1933.4	2008.3
70°	1127.4	1301.4	1561.2	1761.6	1836.5
72.5°	931.5	1129.6	1378.5	1576.7	1658.1
75°	764.1	960.1	1197.9	1387.3	1435.7
77.5°	587.9	783.9	1019.5	1142.9	1175.9
80°	431.6	616.6	805.9	872.0	874.2
82.5°	290.7	453.6	561.5	594.6	590.1
85°	160.7	277.5	306.1	297.3	288.5
87.5°	66.1	92.5	74.9	52.8	41.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)