

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: P474656

Luminaire Tested: **24CZ2-160VHE-SQR-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474656  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-160VHE-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**

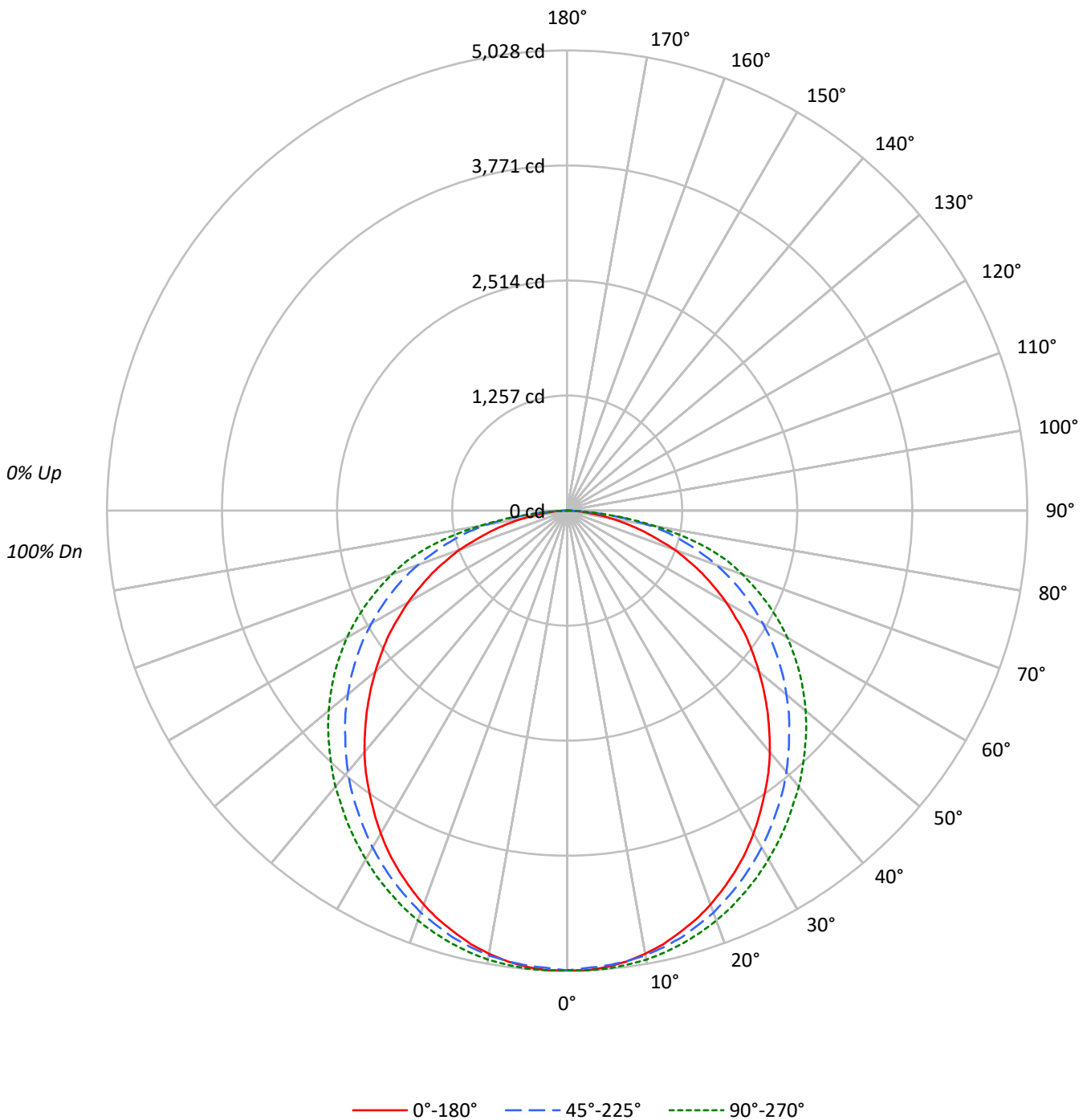
Lumens per Lamp: N/A  
Luminaire Lumens: 15294.0 lumens  
Efficiency: N/A  
Efficacy: 129.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 118.5  
Input Voltage (V): 120  
Input Current (Ain): 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°	13518	13518	13518
5°	13517	13478	13570
10°	13433	13480	13613
15°	13287	13451	13635
20°	13119	13385	13651
25°	12906	13291	13653
30°	12656	13211	13674
35°	12369	13132	13726
40°	12102	13089	13836
45°	11772	13055	13985
50°	11457	13093	14239
55°	11188	13183	14558
60°	10810	13282	14965
65°	10377	13442	15418
70°	9843	13630	16033
75°	8816	13820	16564
80°	7421	13859	15032
85°	5508	10485	9883



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	476.1	3.1
10°-20°	1364.4	8.9
20°-30°	2065.4	13.5
30°-40°	2498.5	16.3
40°-50°	2637.3	17.2
50°-60°	2487.0	16.3
60°-70°	2050.4	13.4
70°-80°	1345.1	8.8
80°-90°	369.8	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°	3905.8	25.5
0°-40°	6404.3	41.9
0°-60°	11528.7	75.4
0°-90°	15294.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15294.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5024	5024	5024	5024	5024	
5°	5004	5004	4989	5024	5024	475
15°	4770	4796	4828	4884	4894	1345
25°	4347	4400	4476	4569	4598	2002
35°	3765	3863	3997	4134	4178	2357
45°	3093	3233	3430	3614	3675	2387
55°	2385	2553	2810	3020	3103	2124
65°	1630	1825	2111	2336	2421	1609
75°	848	1065	1329	1539	1593	896
85°	178	308	340	330	320	221
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5023.6	5023.6	5023.6	5023.6	5023.6
2.5°	5028.5	5023.6	5001.6	5030.9	5028.5
5°	5004.0	5004.0	4989.4	5023.6	5023.6
7.5°	4969.8	4972.3	4967.4	5006.5	5006.5
10°	4916.1	4925.8	4933.2	4977.2	4982.0
12.5°	4852.5	4869.7	4884.3	4938.1	4943.0
15°	4769.5	4796.4	4828.1	4884.3	4894.1
17.5°	4684.0	4715.7	4749.9	4823.2	4835.4
20°	4581.3	4618.0	4674.2	4747.5	4767.0
22.5°	4466.5	4517.8	4576.4	4664.4	4688.8
25°	4346.8	4400.5	4476.3	4569.1	4598.4
27.5°	4217.3	4280.8	4366.3	4473.8	4505.6
30°	4073.1	4146.4	4251.5	4366.3	4400.5
32.5°	3921.6	4007.1	4124.4	4251.5	4290.6
35°	3765.2	3863.0	3997.4	4134.2	4178.2
37.5°	3611.3	3709.0	3867.9	4012.0	4053.6
40°	3445.2	3552.7	3726.2	3880.1	3938.7
42.5°	3269.2	3396.3	3579.5	3750.6	3806.8
45°	3093.3	3232.6	3430.5	3613.8	3674.8
47.5°	2914.9	3068.9	3286.3	3472.0	3542.9
50°	2736.6	2900.3	3127.5	3327.9	3401.2
52.5°	2555.8	2726.8	2973.6	3186.2	3252.1
55°	2384.7	2553.3	2809.9	3020.0	3103.1
57.5°	2186.8	2377.4	2648.6	2861.2	2941.8
60°	2008.5	2194.2	2467.8	2692.6	2780.6
62.5°	1815.4	2006.0	2294.3	2519.1	2604.6
65°	1629.7	1825.2	2111.1	2335.9	2421.4
67.5°	1429.4	1634.6	1927.8	2145.3	2228.4
70°	1251.0	1444.0	1732.4	1954.7	2037.8
72.5°	1033.5	1253.5	1529.6	1749.5	1839.9
75°	847.9	1065.3	1329.2	1539.3	1593.1
77.5°	652.4	869.8	1131.3	1268.1	1304.8
80°	478.9	684.1	894.3	967.6	970.0
82.5°	322.5	503.3	623.1	659.7	654.8
85°	178.4	307.9	339.6	329.9	320.1
87.5°	73.3	102.6	83.1	58.6	46.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)