

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: P474901

Luminaire Tested: **22CZ2-90VHE-S-UNV-L830-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474901  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-90VHE-S-UNV-L830-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8849.4 lumens  
Efficiency: N/A  
Efficacy: 132.7 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.25 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

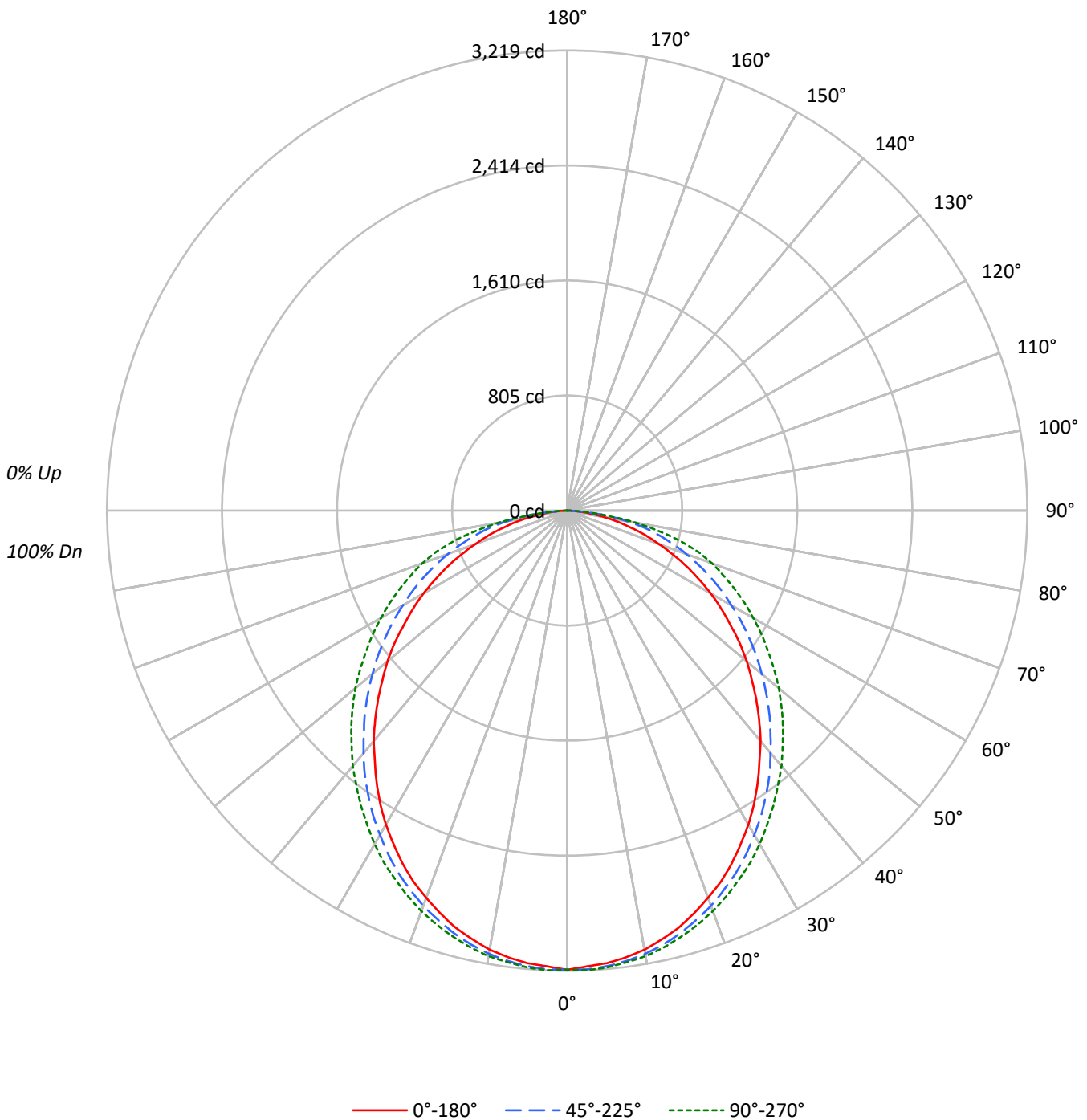
Input Watts (W): 66.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	104	99	95	106	101	97	94	97	94	91		93	91	88		90	88	86	83
2	99	90	83	77	96	88	82	77	85	79	75		81	77	73		78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63		72	66	61		69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53		64	58	53		62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36		47	41	36		46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29		40	33	29		39	33	29	27
10	53	40	32	26	52	39	32	26	38	31	26		37	31	26		36	30	26	24

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

	0°	45°	90°
0°	8644	8644	8644
5°	8585	8643	8666
10°	8520	8602	8649
15°	8412	8526	8597
20°	8255	8426	8537
25°	8088	8298	8451
30°	7879	8138	8371
35°	7633	7971	8266
40°	7395	7779	8192
45°	7123	7612	8125
50°	6867	7441	8096
55°	6541	7294	8058
60°	6247	7146	8091
65°	5864	7063	8209
70°	5358	6976	8475
75°	4810	6924	8483
80°	4049	6538	7533
85°	3041	4431	4100



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	303.4	3.4
10°-20°	861.7	9.7
20°-30°	1284.7	14.5
30°-40°	1515.9	17.1
40°-50°	1544.5	17.5
50°-60°	1392.9	15.7
60°-70°	1093.9	12.4
70°-80°	683.9	7.7
80°-90°	168.6	1.9
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°	2449.8	27.7
0°-40°	3965.7	44.8
0°-60°	6903.0	78.0
0°-90°	8849.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8849.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3212	3212	3212	3212	3212	
5°	3178	3184	3200	3206	3208	301
15°	3020	3030	3060	3082	3086	850
25°	2724	2739	2795	2835	2846	1253
35°	2324	2356	2426	2493	2516	1453
45°	1872	1904	2000	2097	2135	1444
55°	1394	1439	1555	1675	1718	1250
65°	921	970	1109	1234	1289	909
75°	463	527	666	780	816	495
85°	98	126	144	141	133	120
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3212.3	3212.3	3212.3	3212.3	3212.3
2.5°	3190.9	3197.3	3212.3	3218.7	3218.7
5°	3178.1	3184.5	3199.5	3205.9	3208.0
7.5°	3152.4	3160.9	3178.1	3186.6	3186.6
10°	3118.1	3128.8	3148.1	3160.9	3165.2
12.5°	3071.0	3083.8	3109.5	3124.5	3128.8
15°	3019.6	3030.3	3060.3	3081.7	3086.0
17.5°	2953.2	2970.3	3002.4	3030.3	3036.7
20°	2882.5	2901.8	2942.5	2974.6	2981.0
22.5°	2809.7	2824.7	2869.7	2908.2	2916.8
25°	2724.0	2739.0	2794.7	2835.4	2846.1
27.5°	2629.8	2655.5	2711.2	2758.3	2775.4
30°	2535.6	2561.3	2619.1	2674.8	2694.1
32.5°	2432.8	2460.6	2527.0	2584.8	2604.1
35°	2323.6	2355.7	2426.4	2492.8	2516.3
37.5°	2210.1	2246.5	2325.7	2396.4	2422.1
40°	2105.1	2130.8	2214.4	2295.7	2332.1
42.5°	1987.4	2021.6	2105.1	2197.2	2231.5
45°	1871.7	1903.8	2000.2	2096.6	2135.1
47.5°	1751.8	1792.5	1888.8	1995.9	2034.5
50°	1640.4	1674.7	1777.5	1891.0	1933.8
52.5°	1520.5	1556.9	1668.3	1786.0	1824.6
55°	1394.1	1439.1	1554.8	1674.7	1717.5
57.5°	1278.5	1321.3	1443.4	1567.6	1612.6
60°	1160.7	1203.5	1327.8	1454.1	1503.4
62.5°	1036.5	1085.8	1220.7	1342.7	1398.4
65°	920.9	970.1	1109.3	1233.5	1289.2
67.5°	798.8	856.6	995.8	1126.5	1182.1
70°	681.0	749.5	886.6	1015.1	1077.2
72.5°	576.1	631.8	775.2	910.2	961.6
75°	462.6	526.8	666.0	779.5	815.9
77.5°	366.2	421.9	554.7	629.6	653.2
80°	261.3	323.4	421.9	466.9	486.1
82.5°	173.5	224.9	287.0	295.5	291.2
85°	98.5	126.4	143.5	141.3	132.8
87.5°	38.5	42.8	32.1	19.3	15.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)