

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: P389187

Luminaire Tested: **22CZ2-29VHE-S-UNV-L940-CD1-SDWPD1-U**

Issue Date: 2/28/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P389187  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-29VHE-S-UNV-L940-CD1-SDWPD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SMOOTH LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2727.1 lumens  
Efficiency: N/A  
Efficacy: 125.7 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

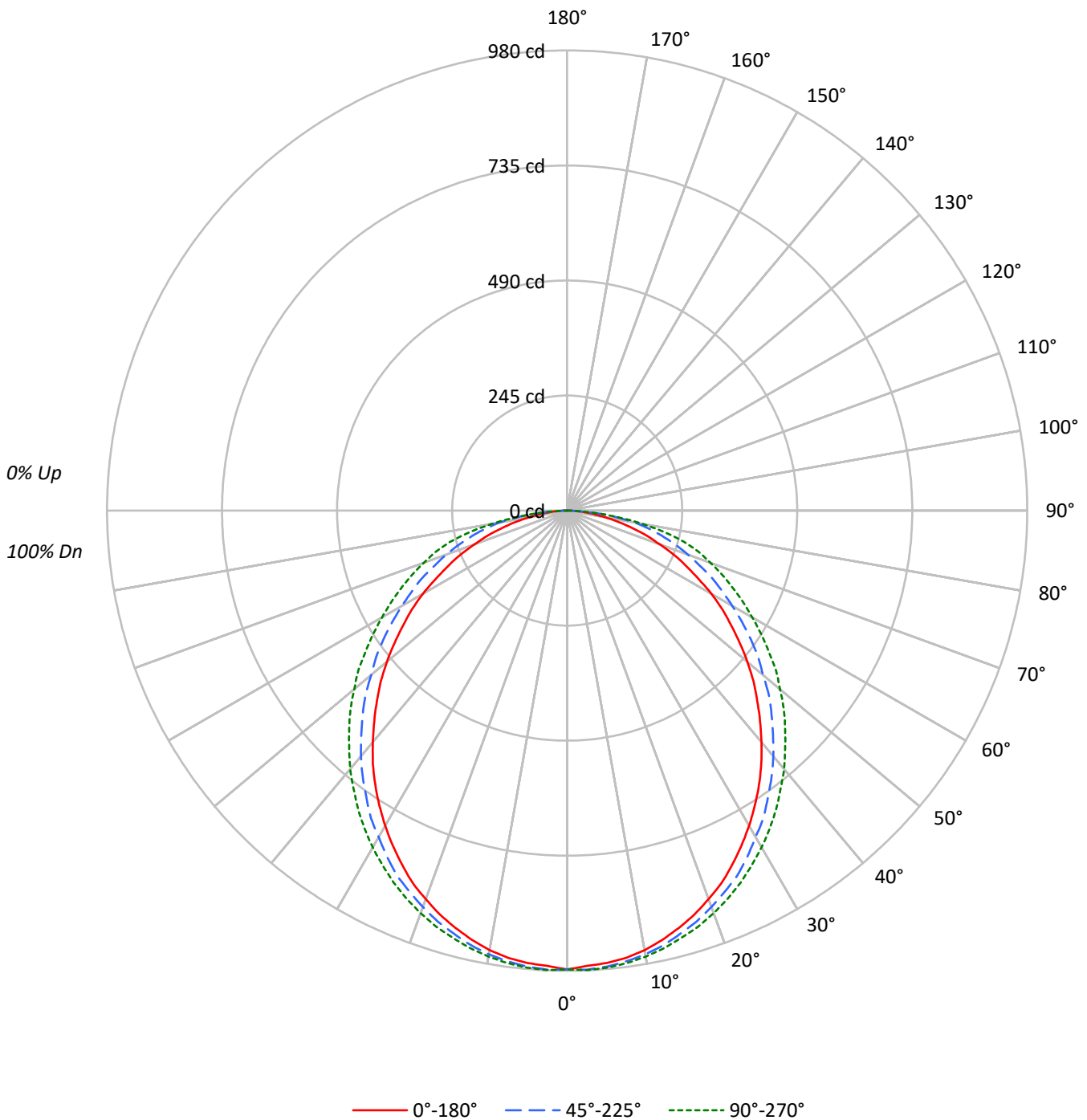
Input Watts (W): 21.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83					83			
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69					69			
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58					58			
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49					49			
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43					43			
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37					37			
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33					33			
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30					30			
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27					27			
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24					24			

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

	0°	45°	90°
0°	2630	2630	2630
5°	2612	2633	2640
10°	2597	2622	2635
15°	2563	2598	2623
20°	2521	2572	2613
25°	2471	2546	2595
30°	2408	2495	2574
35°	2341	2449	2550
40°	2262	2400	2525
45°	2179	2343	2499
50°	2099	2280	2477
55°	2000	2239	2459
60°	1911	2185	2451
65°	1782	2171	2479
70°	1642	2153	2553
75°	1482	2182	2686
80°	1282	2249	2524
85°	1062	1886	1886



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.4	3.4
10°-20°	263.0	9.6
20°-30°	393.5	14.4
30°-40°	466.0	17.1
40°-50°	474.9	17.4
50°-60°	425.7	15.6
60°-70°	333.3	12.2
70°-80°	214.9	7.9
80°-90°	63.5	2.3
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°	748.9	27.5
0°-40°	1214.9	44.5
0°-60°	2115.5	77.6
0°-90°	2727.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2727.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	977	977	977	977	977	
5°	967	970	975	976	977	92
15°	920	925	933	940	942	259
25°	832	840	858	869	874	383
35°	712	722	746	768	776	445
45°	573	585	616	648	657	442
55°	426	440	477	510	524	382
65°	280	296	341	374	389	278
75°	142	164	210	246	258	153
85°	34	47	61	61	61	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	977.2	977.2	977.2	977.2	977.2
2.5°	970.8	973.4	978.5	979.7	979.7
5°	967.0	969.6	974.7	975.9	977.2
7.5°	960.7	961.9	968.3	970.8	972.1
10°	950.5	953.0	959.4	963.2	964.5
12.5°	936.5	940.3	947.9	953.0	954.3
15°	919.9	925.0	932.7	940.3	941.6
17.5°	902.1	907.2	917.4	926.3	928.9
20°	880.5	886.9	898.3	908.5	912.3
22.5°	858.9	864.0	878.0	890.7	894.5
25°	832.2	839.8	857.6	869.1	874.1
27.5°	804.2	813.1	830.9	846.1	851.2
30°	774.9	783.8	802.9	822.0	828.3
32.5°	744.4	754.5	777.4	796.5	802.9
35°	712.5	721.5	745.6	768.5	776.2
37.5°	679.5	687.1	715.1	739.3	746.9
40°	643.8	654.0	683.3	711.3	718.9
42.5°	608.2	619.7	648.9	679.5	687.1
45°	572.6	585.3	615.8	647.7	656.6
47.5°	538.2	548.4	582.8	613.3	626.0
50°	501.3	511.5	544.6	578.9	591.7
52.5°	463.2	477.2	512.8	545.9	561.1
55°	426.3	440.3	477.2	510.2	524.2
57.5°	391.9	403.4	441.5	475.9	489.9
60°	355.0	365.2	405.9	442.8	455.5
62.5°	315.6	330.8	372.8	407.2	422.4
65°	279.9	296.5	341.0	374.1	389.4
67.5°	246.8	262.1	305.4	341.0	357.5
70°	208.7	229.0	273.6	309.2	324.5
72.5°	178.1	195.9	241.8	277.4	293.9
75°	142.5	164.1	209.9	245.6	258.3
77.5°	113.2	134.9	178.1	206.1	212.5
80°	82.7	104.3	145.1	159.1	162.9
82.5°	56.0	76.3	104.3	108.2	109.4
85°	34.4	47.1	61.1	61.1	61.1
87.5°	16.5	19.1	21.6	20.4	20.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)