

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: P388586

Luminaire Tested: **24CZ2-35VHE-SQR-UNV-L930-CD1-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: P388586  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-35VHE-SQR-UNV-L930-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2793.9 lumens  
Efficiency: N/A  
Efficacy: 122.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

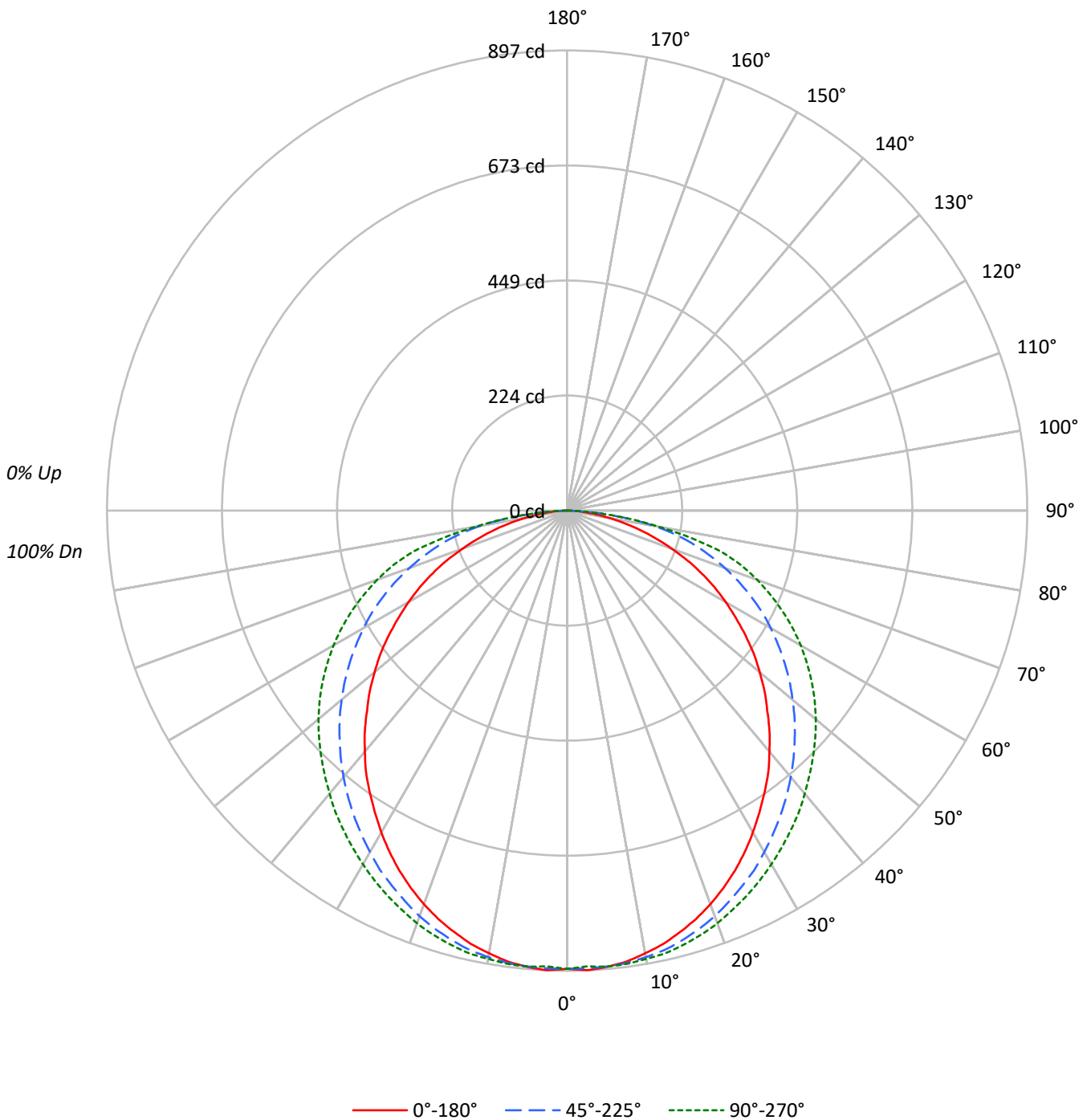
Input Watts (W): 22.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	100	96	92	96	93	89	92	89	87	89	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22

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

	0°	45°	90°
0°	1202	1202	1202
5°	1206	1205	1205
10°	1198	1207	1213
15°	1185	1208	1221
20°	1169	1205	1226
25°	1149	1199	1230
30°	1125	1194	1237
35°	1102	1191	1249
40°	1078	1191	1265
45°	1050	1194	1290
50°	1025	1201	1325
55°	996	1214	1366
60°	961	1234	1415
65°	919	1257	1474
70°	853	1288	1550
75°	772	1333	1621
80°	651	1337	1394
85°	499	1011	1011



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.8	3.0
10°-20°	243.9	8.7
20°-30°	370.5	13.3
30°-40°	450.6	16.1
40°-50°	479.8	17.2
50°-60°	457.0	16.4
60°-70°	382.1	13.7
70°-80°	254.8	9.1
80°-90°	70.5	2.5
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°	699.1	25.0
0°-40°	1149.8	41.2
0°-60°	2086.5	74.7
0°-90°	2793.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2793.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	893	893	893	893	893	
5°	893	888	892	892	892	85
15°	851	852	867	874	876	240
25°	774	784	807	821	828	356
35°	671	690	725	749	760	420
45°	552	581	627	662	678	426
55°	424	461	518	563	582	379
65°	289	331	395	444	463	285
75°	148	196	256	300	312	157
85°	32	60	66	65	66	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	893.1	893.1	893.1	893.1	893.1
2.5°	896.8	890.3	893.1	893.1	889.4
5°	893.1	887.5	892.1	892.1	892.1
7.5°	886.6	882.0	889.4	891.2	891.2
10°	876.5	874.6	883.8	886.6	887.5
12.5°	865.4	864.5	877.4	881.1	883.8
15°	850.6	852.5	867.2	873.7	876.5
17.5°	834.9	838.6	855.2	864.5	867.2
20°	816.5	822.0	841.4	850.6	856.2
22.5°	796.2	804.5	824.8	835.9	842.3
25°	774.1	784.2	807.3	821.1	828.5
27.5°	750.1	763.0	789.7	805.4	812.8
30°	724.2	739.0	768.5	787.0	796.2
32.5°	697.5	715.0	747.3	767.6	778.7
35°	670.7	690.1	725.2	749.1	760.2
37.5°	644.0	663.3	702.1	727.9	741.8
40°	613.5	636.6	678.1	706.7	720.5
42.5°	584.0	608.9	653.2	684.6	699.3
45°	551.7	581.2	627.4	662.4	678.1
47.5°	522.2	551.7	601.5	638.4	656.0
50°	489.9	521.3	573.9	614.4	632.9
52.5°	458.5	490.8	546.2	589.5	608.0
55°	424.4	461.3	517.6	562.8	582.2
57.5°	390.3	429.9	488.0	535.1	554.5
60°	357.0	397.6	458.5	505.6	525.9
62.5°	323.8	364.4	428.1	476.1	495.4
65°	288.8	331.2	394.9	443.8	463.1
67.5°	253.7	298.0	361.7	410.6	429.0
70°	216.8	263.9	327.5	375.5	393.9
72.5°	182.7	229.7	292.5	339.5	357.0
75°	148.5	195.6	256.5	299.8	311.8
77.5°	115.3	162.4	216.8	245.4	248.2
80°	84.0	128.2	172.5	180.8	179.9
82.5°	56.3	95.9	119.0	119.9	122.7
85°	32.3	60.0	65.5	64.6	65.5
87.5°	12.9	21.2	18.5	13.8	13.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)