

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: P391221

Luminaire Tested: **24CZ2-30VHE-HRP-UNV-L930-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: P391221  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-30VHE-HRP-UNV-L930-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2057.5 lumens  
Efficiency: N/A  
Efficacy: 100.9 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

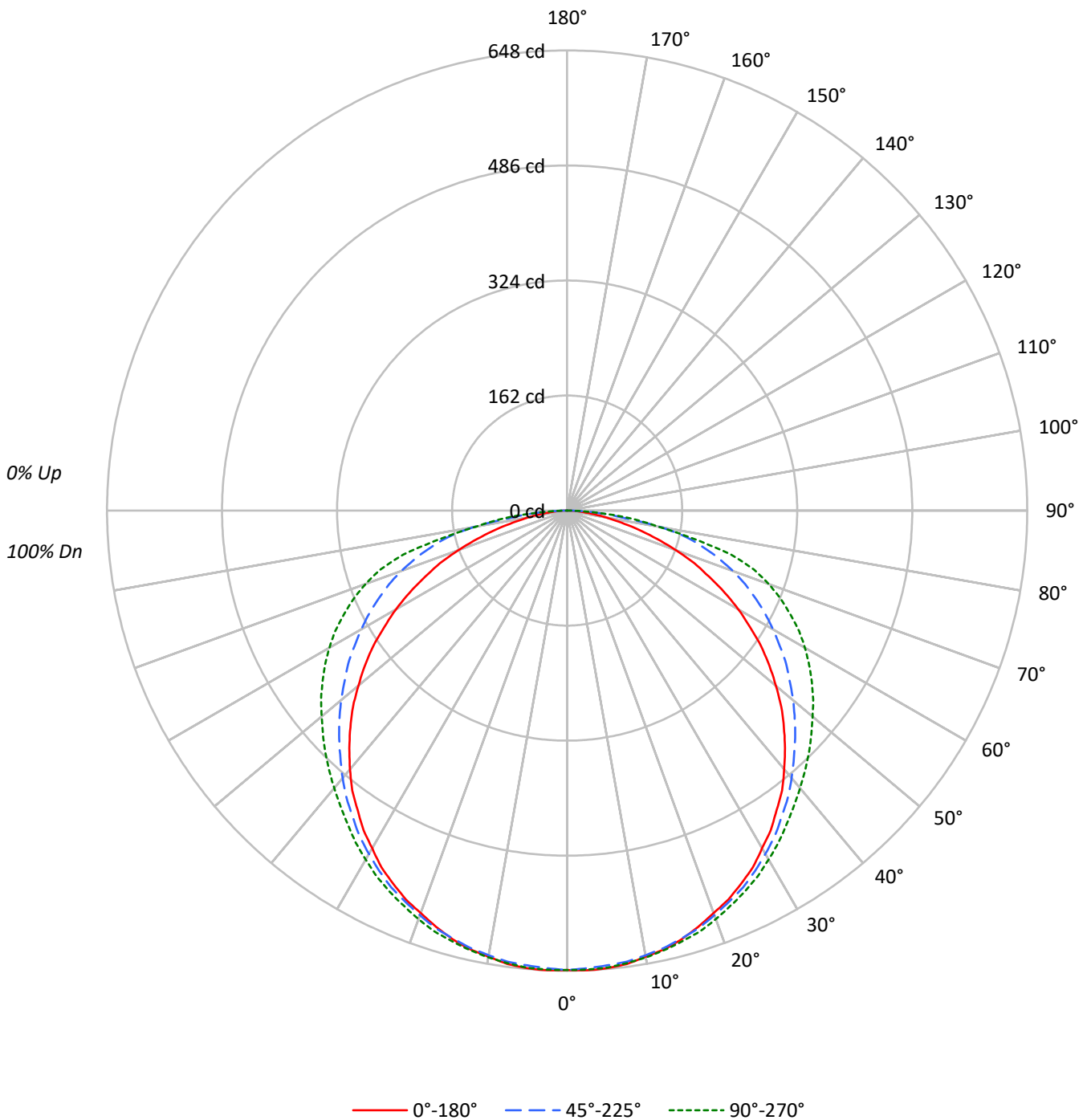
Input Watts (W): 20.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	871	871	871
5°	874	868	873
10°	871	869	873
15°	870	869	874
20°	864	868	877
25°	861	870	879
30°	853	867	882
35°	845	865	885
40°	835	864	896
45°	821	864	917
50°	803	870	944
55°	783	883	986
60°	750	901	1041
65°	702	933	1105
70°	638	976	1188
75°	541	1029	1241
80°	427	1036	1004
85°	315	787	883



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.4	3.0
10°-20°	176.6	8.6
20°-30°	270.1	13.1
30°-40°	330.2	16.0
40°-50°	351.9	17.1
50°-60°	336.5	16.4
60°-70°	285.1	13.9
70°-80°	191.6	9.3
80°-90°	54.0	2.6
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°	508.1	24.7
0°-40°	838.4	40.7
0°-60°	1526.8	74.2
0°-90°	2057.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2057.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	647	647	647	647	647	
5°	647	646	643	646	646	61
15°	625	625	624	629	628	176
25°	580	582	586	591	592	267
35°	514	518	527	537	539	322
45°	432	439	454	474	482	333
55°	334	346	377	406	420	297
65°	220	243	293	332	347	219
75°	104	142	198	232	239	111
85°	20	42	51	55	57	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	647.0	647.0	647.0	647.0	647.0
2.5°	648.0	648.0	645.0	647.0	647.0
5°	647.0	646.0	642.9	646.0	646.0
7.5°	644.0	642.9	640.9	644.0	642.9
10°	637.8	637.8	635.8	638.9	638.9
12.5°	632.7	631.7	630.7	634.8	633.8
15°	624.6	624.6	623.6	628.7	627.6
17.5°	614.4	615.4	616.4	620.5	621.5
20°	603.1	605.2	606.2	612.3	612.3
22.5°	592.9	594.0	596.0	602.1	602.1
25°	579.7	581.7	585.8	590.9	591.9
27.5°	566.4	567.4	572.5	579.7	580.7
30°	549.1	552.1	558.2	566.4	567.4
32.5°	533.7	536.8	544.0	552.1	554.2
35°	514.4	518.4	526.6	536.8	538.8
37.5°	497.0	500.1	510.3	521.5	524.6
40°	475.6	481.7	491.9	505.2	510.3
42.5°	454.1	460.3	472.5	489.9	496.0
45°	431.7	438.8	454.1	473.5	481.7
47.5°	409.2	417.4	434.8	457.2	466.4
50°	383.7	393.9	415.4	440.9	451.1
52.5°	359.2	371.5	395.0	423.5	436.8
55°	333.7	346.0	376.6	406.2	420.5
57.5°	305.1	321.5	355.1	388.8	404.1
60°	278.6	293.9	334.7	371.5	386.8
62.5°	250.0	270.4	314.3	353.1	368.4
65°	220.4	242.9	292.9	331.7	347.0
67.5°	193.9	218.4	271.5	310.2	325.6
70°	162.3	192.9	248.0	286.8	302.1
72.5°	132.7	166.3	223.5	261.3	275.5
75°	104.1	141.9	198.0	231.7	238.8
77.5°	77.6	117.4	171.5	185.7	180.6
80°	55.1	93.9	133.7	126.5	129.6
82.5°	35.7	71.4	82.7	93.9	97.0
85°	20.4	41.8	51.0	55.1	57.2
87.5°	9.2	15.3	20.4	20.4	19.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)