

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: P391228

Luminaire Tested: **24CZ2-30VHE-HRP-UNV-L940-CD1-SWPD1-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: P391228  
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-L940-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2156.2 lumens  
Efficiency: N/A  
Efficacy: 105.7 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

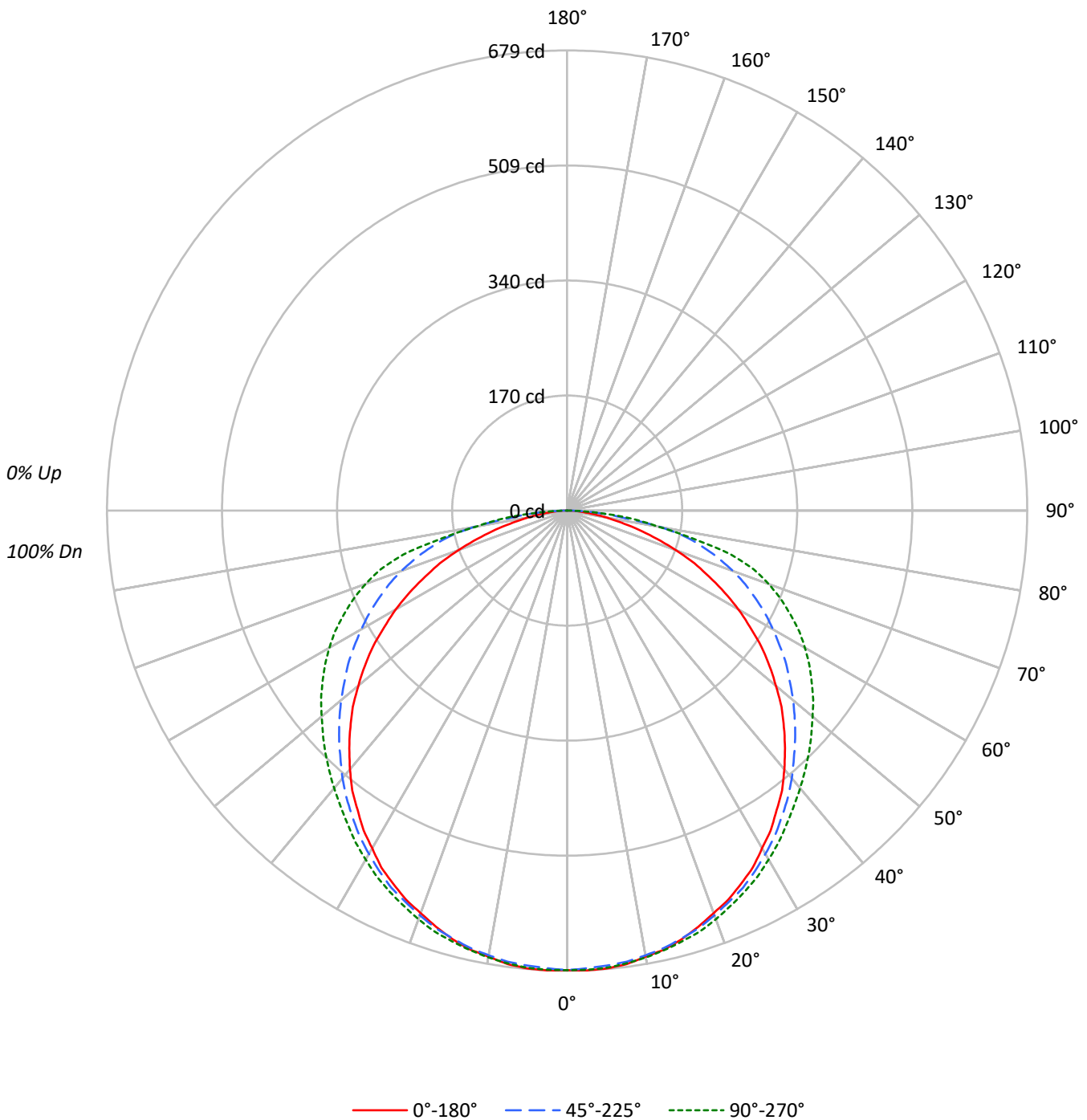
Input Watts (W): 20.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	912	912	912
5°	916	910	914
10°	913	910	915
15°	912	910	916
20°	905	910	919
25°	902	911	921
30°	894	909	924
35°	885	907	928
40°	875	905	939
45°	861	906	961
50°	842	911	989
55°	820	926	1034
60°	786	944	1091
65°	735	977	1158
70°	669	1022	1245
75°	567	1079	1301
80°	448	1086	1052
85°	330	826	925



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.3	3.0
10°-20°	185.1	8.6
20°-30°	283.1	13.1
30°-40°	346.1	16.0
40°-50°	368.8	17.1
50°-60°	352.6	16.4
60°-70°	298.7	13.9
70°-80°	200.8	9.3
80°-90°	56.6	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°	532.5	24.7
0°-40°	878.6	40.7
0°-60°	1600.0	74.2
0°-90°	2156.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2156.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	678	678	678	678	678	
5°	678	677	674	677	677	64
15°	654	654	654	659	658	185
25°	608	610	614	619	620	280
35°	539	543	552	563	565	338
45°	452	460	476	496	505	349
55°	350	363	395	426	441	311
65°	231	254	307	348	364	229
75°	109	149	208	243	250	117
85°	21	44	54	58	60	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	678.1	678.1	678.1	678.1	678.1
2.5°	679.1	679.1	675.9	678.1	678.1
5°	678.1	677.0	673.8	677.0	677.0
7.5°	674.9	673.8	671.6	674.9	673.8
10°	668.4	668.4	666.3	669.5	669.5
12.5°	663.1	662.0	661.0	665.2	664.2
15°	654.5	654.5	653.5	658.8	657.7
17.5°	643.8	644.9	646.0	650.3	651.3
20°	632.1	634.2	635.3	641.7	641.7
22.5°	621.4	622.4	624.6	631.0	631.0
25°	607.5	609.6	613.9	619.2	620.3
27.5°	593.6	594.6	600.0	607.5	608.5
30°	575.4	578.6	585.0	593.6	594.6
32.5°	559.3	562.6	570.0	578.6	580.7
35°	539.0	543.3	551.9	562.6	564.7
37.5°	520.8	524.1	534.8	546.5	549.7
40°	498.4	504.8	515.5	529.4	534.8
42.5°	475.9	482.3	495.2	513.4	519.8
45°	452.4	459.9	475.9	496.2	504.8
47.5°	428.9	437.4	455.6	479.1	488.8
50°	402.1	412.8	435.3	462.0	472.7
52.5°	376.5	389.3	413.9	443.8	457.7
55°	349.7	362.6	394.6	425.7	440.6
57.5°	319.8	336.9	372.2	407.5	423.5
60°	292.0	308.0	350.8	389.3	405.3
62.5°	262.0	283.4	329.4	370.0	386.1
65°	231.0	254.5	306.9	347.6	363.6
67.5°	203.2	228.9	284.5	325.1	341.2
70°	170.1	202.1	259.9	300.5	316.6
72.5°	139.0	174.3	234.2	273.8	288.8
75°	109.1	148.7	207.5	242.8	250.3
77.5°	81.3	123.0	179.7	194.6	189.3
80°	57.8	98.4	140.1	132.6	135.8
82.5°	37.4	74.9	86.6	98.4	101.6
85°	21.4	43.8	53.5	57.8	59.9
87.5°	9.6	16.0	21.4	21.4	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)