

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: P391081

Luminaire Tested: **24CZ2-150VHE-HRP-UNV-L935-CD2-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: P391081  
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: 24CZ2-150VHE-HRP-UNV-L935-CD2-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10635.7 lumens  
Efficiency: N/A  
Efficacy: 102.1 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

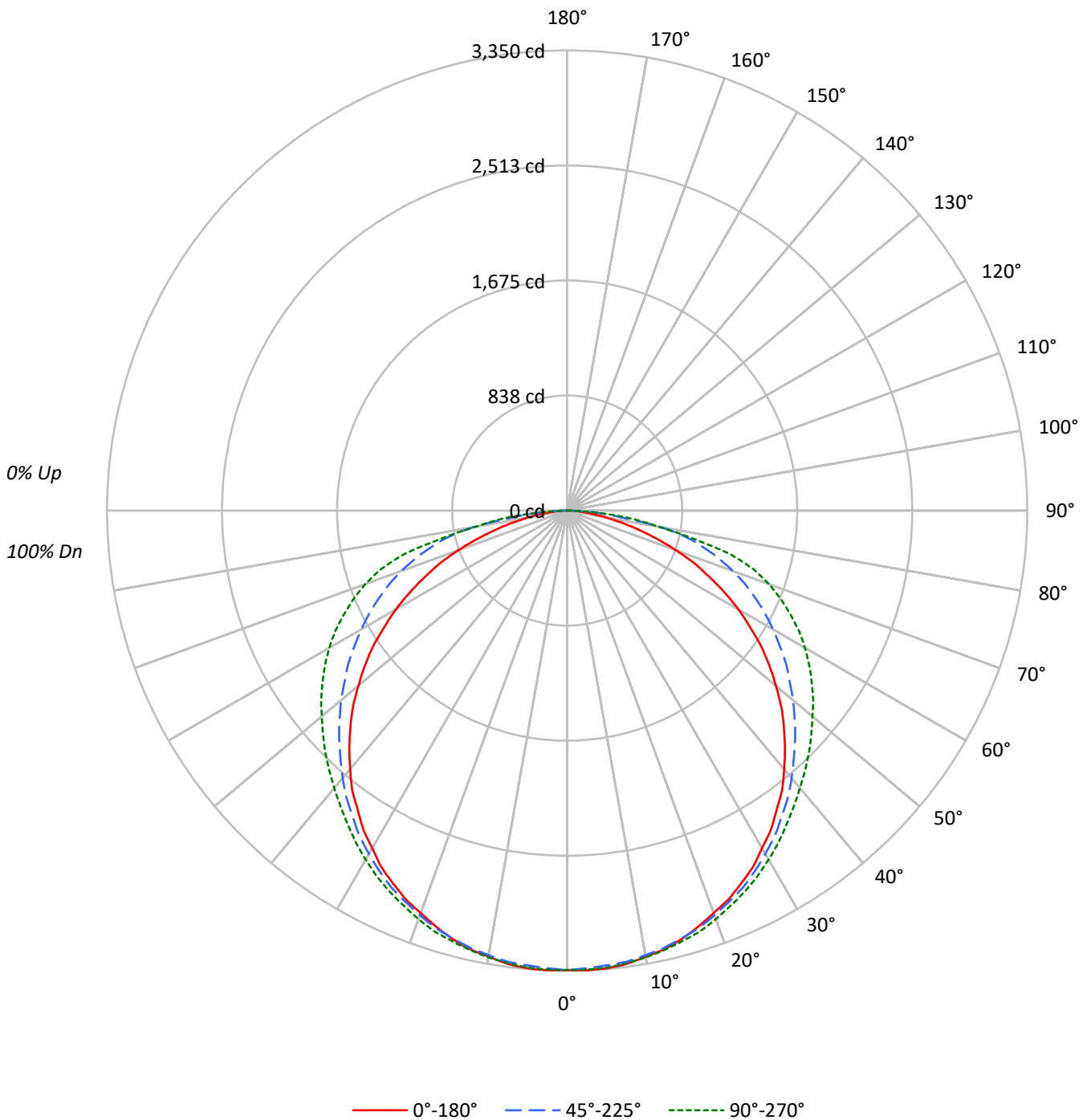
Input Watts (W): 104.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4500	4500	4500
5°	4517	4489	4510
10°	4505	4490	4512
15°	4497	4490	4519
20°	4464	4487	4532
25°	4448	4495	4543
30°	4410	4483	4557
35°	4367	4471	4575
40°	4318	4466	4633
45°	4246	4467	4738
50°	4152	4494	4881
55°	4047	4566	5099
60°	3876	4656	5380
65°	3628	4820	5710
70°	3300	5043	6143
75°	2797	5320	6418
80°	2208	5355	5191
85°	1629	4072	4560



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	317.3	3.0
10°-20°	913.1	8.6
20°-30°	1396.3	13.1
30°-40°	1707.0	16.0
40°-50°	1819.3	17.1
50°-60°	1739.5	16.4
60°-70°	1473.6	13.9
70°-80°	990.4	9.3
80°-90°	279.4	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°	2626.7	24.7
0°-40°	4333.7	40.7
0°-60°	7892.4	74.2
0°-90°	10635.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10635.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3345	3345	3345	3345	3345	
5°	3345	3339	3324	3339	3339	318
15°	3229	3229	3223	3250	3244	910
25°	2996	3007	3028	3054	3060	1381
35°	2659	2680	2722	2775	2785	1666
45°	2232	2268	2348	2448	2490	1721
55°	1725	1788	1947	2100	2174	1536
65°	1140	1256	1514	1714	1794	1131
75°	538	733	1023	1198	1234	576
85°	106	216	264	285	295	131
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3344.6	3344.6	3344.6	3344.6	3344.6
2.5°	3349.9	3349.9	3334.1	3344.6	3344.6
5°	3344.6	3339.3	3323.5	3339.3	3339.3
7.5°	3328.8	3323.5	3313.0	3328.8	3323.5
10°	3297.1	3297.1	3286.6	3302.4	3302.4
12.5°	3270.8	3265.5	3260.2	3281.3	3276.0
15°	3228.6	3228.6	3223.3	3249.7	3244.4
17.5°	3175.8	3181.1	3186.4	3207.5	3212.7
20°	3117.8	3128.3	3133.6	3165.3	3165.3
22.5°	3065.0	3070.3	3080.9	3112.5	3112.5
25°	2996.4	3007.0	3028.1	3054.5	3059.8
27.5°	2927.9	2933.1	2959.5	2996.4	3001.7
30°	2838.2	2854.0	2885.7	2927.9	2933.1
32.5°	2759.1	2774.9	2811.8	2854.0	2864.6
35°	2658.8	2679.9	2722.1	2774.9	2785.4
37.5°	2569.1	2585.0	2637.7	2695.7	2711.6
40°	2458.4	2490.0	2542.8	2611.3	2637.7
42.5°	2347.6	2379.2	2442.5	2532.2	2563.9
45°	2231.5	2268.4	2347.6	2447.8	2490.0
47.5°	2115.4	2157.7	2247.3	2363.4	2410.9
50°	1983.6	2036.3	2147.1	2279.0	2331.7
52.5°	1857.0	1920.3	2041.6	2189.3	2257.9
55°	1725.1	1788.4	1946.6	2099.6	2173.5
57.5°	1577.4	1661.8	1835.9	2009.9	2089.1
60°	1440.2	1519.3	1730.3	1920.3	1999.4
62.5°	1292.5	1398.0	1624.8	1825.3	1904.4
65°	1139.5	1255.6	1514.0	1714.5	1793.6
67.5°	1002.3	1128.9	1403.3	1603.7	1682.9
70°	838.8	997.1	1281.9	1482.4	1561.5
72.5°	685.8	859.9	1155.3	1350.5	1424.4
75°	538.1	733.3	1023.4	1197.5	1234.5
77.5°	400.9	606.7	886.3	960.1	933.8
80°	284.9	485.3	691.1	654.2	670.0
82.5°	184.6	369.3	427.3	485.3	501.2
85°	105.5	216.3	263.8	284.9	295.4
87.5°	47.5	79.1	105.5	105.5	100.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)