

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: P388403

Luminaire Tested: **24CZ2-150VHE-SQR-UNV-L950-CD2-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: P388403  
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: 24CZ2-150VHE-SQR-UNV-L950-CD2-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13067.0 lumens  
Efficiency: N/A  
Efficacy: 125.4 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

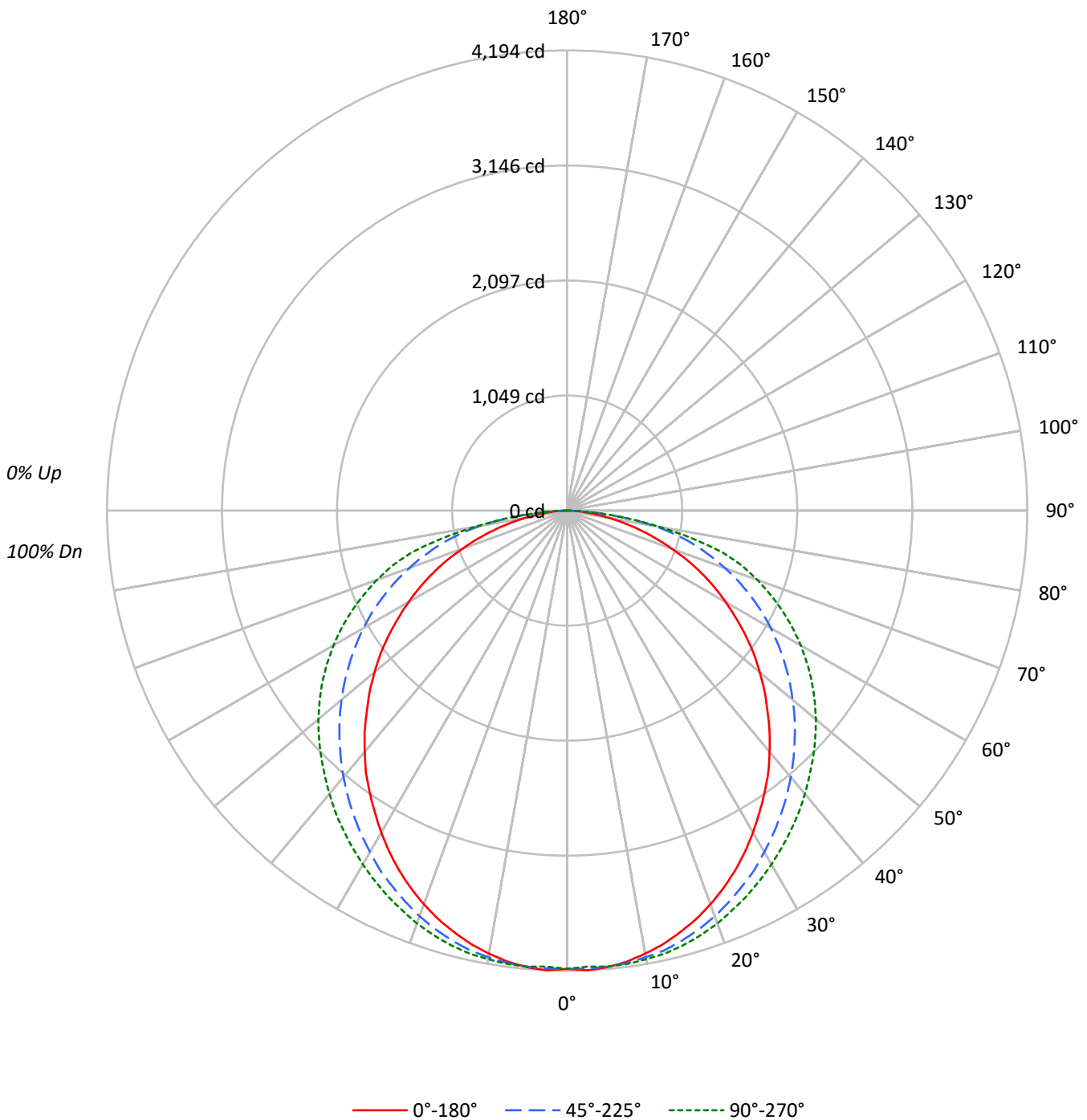
Input Watts (W): 104.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	5620	5620	5620
5°	5641	5635	5635
10°	5601	5648	5671
15°	5542	5650	5710
20°	5468	5635	5734
25°	5374	5605	5752
30°	5262	5584	5785
35°	5153	5571	5840
40°	5040	5570	5919
45°	4910	5583	6035
50°	4796	5618	6196
55°	4656	5678	6387
60°	4494	5771	6618
65°	4300	5880	6896
70°	3989	6026	7248
75°	3611	6236	7582
80°	3043	6252	6519
85°	2331	4730	4730



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	396.5	3.0
10°-20°	1140.7	8.7
20°-30°	1732.7	13.3
30°-40°	2107.5	16.1
40°-50°	2243.9	17.2
50°-60°	2137.2	16.4
60°-70°	1787.3	13.7
70°-80°	1191.6	9.1
80°-90°	329.7	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°	3269.9	25.0
0°-40°	5377.4	41.2
0°-60°	9758.4	74.7
0°-90°	13067.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13067.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4177	4177	4177	4177	4177	
5°	4177	4151	4172	4172	4172	396
15°	3978	3987	4056	4086	4099	1122
25°	3620	3668	3776	3840	3875	1667
35°	3137	3228	3392	3504	3556	1963
45°	2580	2718	2934	3098	3172	1995
55°	1985	2158	2421	2632	2723	1774
65°	1351	1549	1847	2076	2166	1334
75°	695	915	1200	1402	1458	736
85°	151	280	306	302	306	182
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4176.8	4176.8	4176.8	4176.8	4176.8
2.5°	4194.1	4163.9	4176.8	4176.8	4159.6
5°	4176.8	4151.0	4172.5	4172.5	4172.5
7.5°	4146.6	4125.1	4159.6	4168.2	4168.2
10°	4099.2	4090.6	4133.7	4146.6	4151.0
12.5°	4047.4	4043.1	4103.5	4120.8	4133.7
15°	3978.4	3987.0	4056.0	4086.2	4099.2
17.5°	3905.0	3922.3	3999.9	4043.1	4056.0
20°	3818.7	3844.6	3935.2	3978.4	4004.3
22.5°	3723.8	3762.6	3857.5	3909.3	3939.5
25°	3620.2	3667.7	3775.6	3840.3	3874.8
27.5°	3508.0	3568.4	3693.6	3766.9	3801.5
30°	3387.2	3456.3	3594.3	3680.6	3723.8
32.5°	3262.1	3344.1	3495.1	3590.0	3641.8
35°	3137.0	3227.6	3391.5	3503.7	3555.5
37.5°	3011.8	3102.4	3283.7	3404.5	3469.2
40°	2869.4	2977.3	3171.5	3305.2	3370.0
42.5°	2731.3	2847.9	3055.0	3201.7	3270.7
45°	2580.3	2718.4	2934.2	3098.1	3171.5
47.5°	2442.2	2580.3	2813.3	2985.9	3067.9
50°	2291.2	2437.9	2683.9	2873.7	2960.0
52.5°	2144.5	2295.5	2554.4	2757.2	2843.5
55°	1984.9	2157.5	2420.7	2632.1	2722.7
57.5°	1825.2	2010.8	2282.6	2502.7	2593.3
60°	1669.9	1859.7	2144.5	2364.6	2459.5
62.5°	1514.5	1704.4	2002.1	2226.5	2317.1
65°	1350.6	1549.1	1846.8	2075.5	2166.1
67.5°	1186.6	1393.7	1691.5	1920.1	2006.4
70°	1014.0	1234.1	1531.8	1756.2	1842.5
72.5°	854.4	1074.4	1367.8	1587.9	1669.9
75°	694.7	914.8	1199.5	1402.4	1458.4
77.5°	539.4	759.4	1014.0	1147.8	1160.7
80°	392.7	599.8	806.9	845.7	841.4
82.5°	263.2	448.8	556.6	560.9	573.9
85°	151.0	280.5	306.4	302.0	306.4
87.5°	60.4	99.2	86.3	64.7	64.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)