

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: P391800

Luminaire Tested: **24CZ2-90VHE-HRP-UNV-L935-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: P391800  
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: 24CZ2-90VHE-HRP-UNV-L935-CD1-SDWPD1-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: 6339.1 lumens  
Efficiency: N/A  
Efficacy: 102.6 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

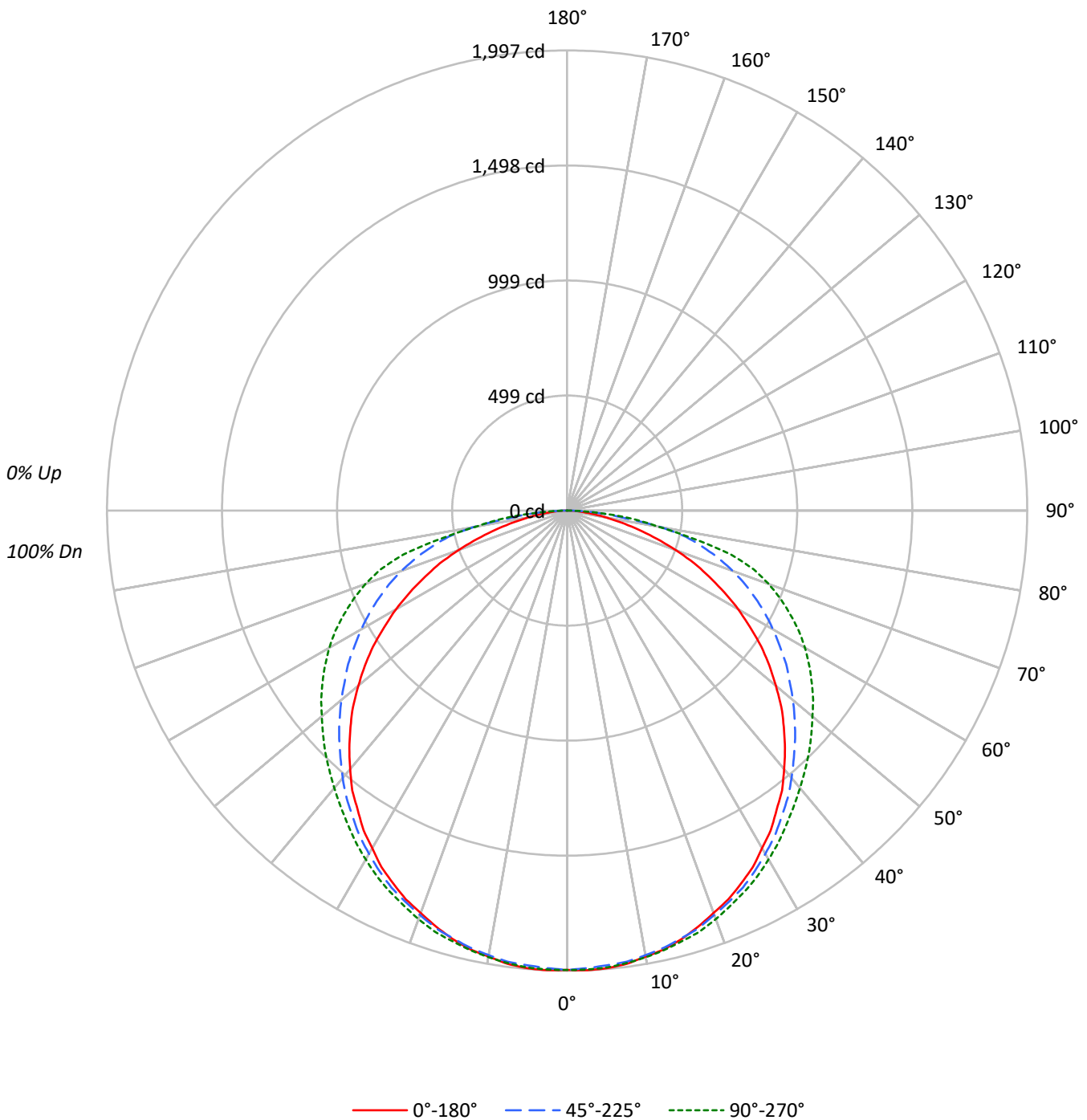
Input Watts (W): 61.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	2682	2682	2682
5°	2692	2675	2688
10°	2685	2676	2689
15°	2680	2676	2694
20°	2661	2674	2701
25°	2651	2679	2707
30°	2628	2672	2716
35°	2603	2665	2727
40°	2573	2662	2761
45°	2531	2662	2824
50°	2475	2679	2909
55°	2412	2722	3039
60°	2310	2775	3207
65°	2162	2873	3404
70°	1967	3006	3661
75°	1667	3171	3825
80°	1316	3192	3094
85°	971	2427	2719



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.1	3.0
10°-20°	544.2	8.6
20°-30°	832.2	13.1
30°-40°	1017.4	16.0
40°-50°	1084.3	17.1
50°-60°	1036.8	16.4
60°-70°	878.3	13.9
70°-80°	590.3	9.3
80°-90°	166.5	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°	1565.6	24.7
0°-40°	2582.9	40.7
0°-60°	4704.0	74.2
0°-90°	6339.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6339.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1994	1994	1994	1994	1994	
5°	1994	1990	1981	1990	1990	189
15°	1924	1924	1921	1937	1934	543
25°	1786	1792	1805	1820	1824	823
35°	1585	1597	1622	1654	1660	993
45°	1330	1352	1399	1459	1484	1026
55°	1028	1066	1160	1251	1295	916
65°	679	748	902	1022	1069	674
75°	321	437	610	714	736	343
85°	63	129	157	170	176	78
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1993.5	1993.5	1993.5	1993.5	1993.5
2.5°	1996.6	1996.6	1987.2	1993.5	1993.5
5°	1993.5	1990.3	1980.9	1990.3	1990.3
7.5°	1984.0	1980.9	1974.6	1984.0	1980.9
10°	1965.2	1965.2	1958.9	1968.3	1968.3
12.5°	1949.4	1946.3	1943.2	1955.7	1952.6
15°	1924.3	1924.3	1921.1	1936.9	1933.7
17.5°	1892.8	1896.0	1899.1	1911.7	1914.9
20°	1858.3	1864.6	1867.7	1886.6	1886.6
22.5°	1826.8	1830.0	1836.3	1855.1	1855.1
25°	1785.9	1792.2	1804.8	1820.5	1823.7
27.5°	1745.1	1748.2	1763.9	1785.9	1789.1
30°	1691.6	1701.0	1719.9	1745.1	1748.2
32.5°	1644.5	1653.9	1675.9	1701.0	1707.3
35°	1584.7	1597.3	1622.4	1653.9	1660.2
37.5°	1531.3	1540.7	1572.1	1606.7	1616.2
40°	1465.2	1484.1	1515.5	1556.4	1572.1
42.5°	1399.2	1418.1	1455.8	1509.2	1528.1
45°	1330.0	1352.0	1399.2	1458.9	1484.1
47.5°	1260.9	1286.0	1339.5	1408.6	1436.9
50°	1182.2	1213.7	1279.7	1358.3	1389.8
52.5°	1106.8	1144.5	1216.8	1304.9	1345.7
55°	1028.2	1065.9	1160.2	1251.4	1295.4
57.5°	940.1	990.4	1094.2	1198.0	1245.1
60°	858.4	905.5	1031.3	1144.5	1191.7
62.5°	770.3	833.2	968.4	1087.9	1135.1
65°	679.2	748.3	902.4	1021.9	1069.1
67.5°	597.4	672.9	836.4	955.9	1003.0
70°	499.9	594.3	764.1	883.5	930.7
72.5°	408.8	512.5	688.6	804.9	849.0
75°	320.7	437.1	610.0	713.7	735.8
77.5°	239.0	361.6	528.2	572.3	556.5
80°	169.8	289.3	411.9	389.9	399.3
82.5°	110.0	220.1	254.7	289.3	298.7
85°	62.9	128.9	157.2	169.8	176.1
87.5°	28.3	47.2	62.9	62.9	59.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)