

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: P390893

Luminaire Tested: **24CZ2-100VHE-HRP-UNV-L940-CD1-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: P390893  
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: 24CZ2-100VHE-HRP-UNV-L940-CD1-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: 7389.4 lumens  
Efficiency: N/A  
Efficacy: 106.2 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

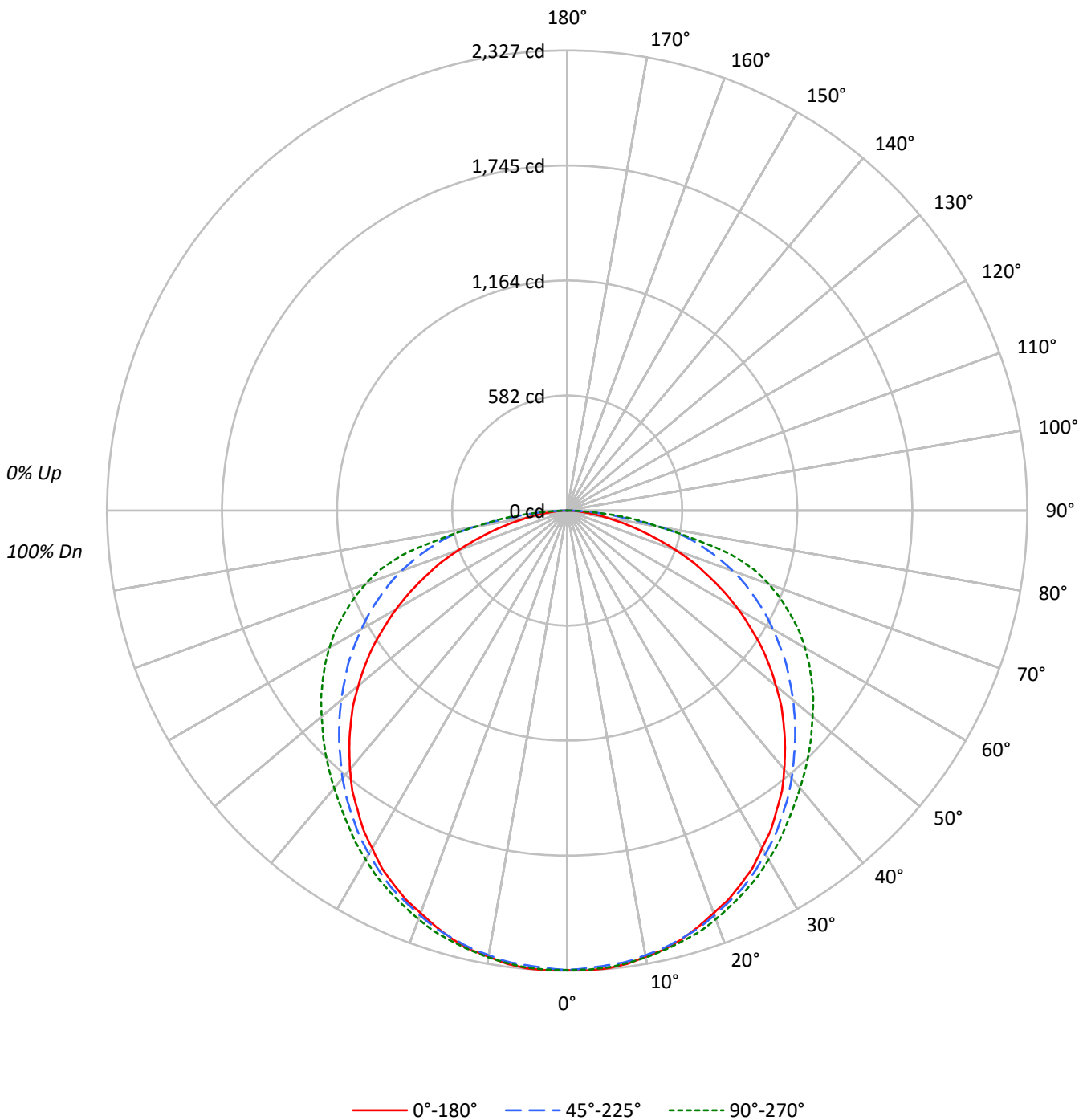
Input Watts (W): 69.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3127	3127	3127
5°	3139	3119	3134
10°	3130	3120	3135
15°	3125	3120	3140
20°	3102	3117	3149
25°	3091	3123	3156
30°	3064	3115	3166
35°	3034	3107	3179
40°	3000	3103	3219
45°	2950	3103	3292
50°	2885	3122	3391
55°	2811	3173	3542
60°	2693	3235	3738
65°	2521	3349	3968
70°	2293	3504	4268
75°	1944	3697	4459
80°	1533	3720	3607
85°	1132	2830	3169



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	220.4	3.0
10°-20°	634.4	8.6
20°-30°	970.1	13.1
30°-40°	1186.0	16.0
40°-50°	1264.0	17.1
50°-60°	1208.5	16.4
60°-70°	1023.8	13.9
70°-80°	688.1	9.3
80°-90°	194.1	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°	1825.0	24.7
0°-40°	3010.9	40.7
0°-60°	5483.5	74.2
0°-90°	7389.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7389.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2324	2324	2324	2324	2324	
5°	2324	2320	2309	2320	2320	221
15°	2243	2243	2240	2258	2254	632
25°	2082	2089	2104	2122	2126	960
35°	1847	1862	1891	1928	1935	1157
45°	1550	1576	1631	1701	1730	1196
55°	1198	1242	1352	1459	1510	1067
65°	792	872	1052	1191	1246	786
75°	374	510	711	832	858	400
85°	73	150	183	198	205	91
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2323.8	2323.8	2323.8	2323.8	2323.8
2.5°	2327.4	2327.4	2316.4	2323.8	2323.8
5°	2323.8	2320.1	2309.1	2320.1	2320.1
7.5°	2312.8	2309.1	2301.8	2312.8	2309.1
10°	2290.8	2290.8	2283.4	2294.4	2294.4
12.5°	2272.4	2268.8	2265.1	2279.8	2276.1
15°	2243.1	2243.1	2239.5	2257.8	2254.1
17.5°	2206.5	2210.1	2213.8	2228.5	2232.1
20°	2166.2	2173.5	2177.1	2199.1	2199.1
22.5°	2129.5	2133.2	2140.5	2162.5	2162.5
25°	2081.9	2089.2	2103.8	2122.2	2125.8
27.5°	2034.2	2037.9	2056.2	2081.9	2085.5
30°	1971.9	1982.9	2004.9	2034.2	2037.9
32.5°	1916.9	1927.9	1953.6	1982.9	1990.2
35°	1847.3	1861.9	1891.3	1927.9	1935.2
37.5°	1785.0	1796.0	1832.6	1872.9	1883.9
40°	1708.0	1730.0	1766.6	1814.3	1832.6
42.5°	1631.0	1653.0	1697.0	1759.3	1781.3
45°	1550.4	1576.0	1631.0	1700.7	1730.0
47.5°	1469.8	1499.1	1561.4	1642.0	1675.0
50°	1378.1	1414.8	1491.7	1583.4	1620.0
52.5°	1290.2	1334.1	1418.4	1521.1	1568.7
55°	1198.5	1242.5	1352.5	1458.8	1510.1
57.5°	1095.9	1154.5	1275.5	1396.5	1451.4
60°	1000.6	1055.6	1202.2	1334.1	1389.1
62.5°	898.0	971.3	1128.9	1268.2	1323.1
65°	791.7	872.3	1051.9	1191.2	1246.2
67.5°	696.4	784.4	975.0	1114.2	1169.2
70°	582.8	692.7	890.7	1029.9	1084.9
72.5°	476.5	597.4	802.7	938.3	989.6
75°	373.9	509.5	711.1	832.0	857.7
77.5°	278.6	421.5	615.8	667.1	648.7
80°	197.9	337.2	480.1	454.5	465.5
82.5°	128.3	256.6	296.9	337.2	348.2
85°	73.3	150.3	183.3	197.9	205.3
87.5°	33.0	55.0	73.3	73.3	69.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)