

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: P391803

Luminaire Tested: **24CZ2-90VHE-HRP-UNV-L940-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: P391803
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-L940-CD1-SDWPD1-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: 6404.7 lumens
Efficiency: N/A
Efficacy: 103.6 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

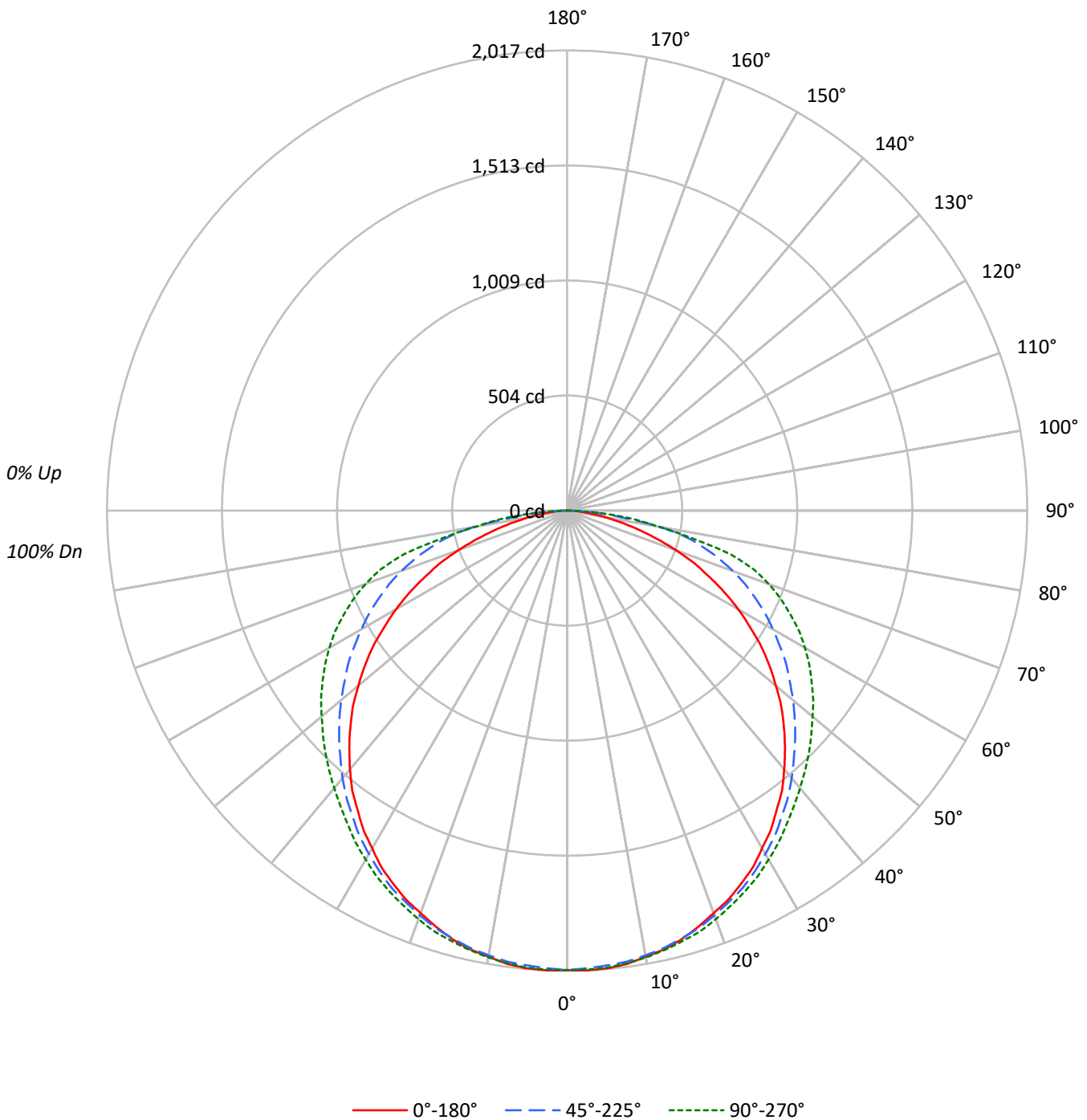
Input Watts (W): 61.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P391803

CATALOG NUMBER: 24CZ2-90VHE-HRP-UNV-L940-CD1-SDWPD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P391803

CATALOG NUMBER: 24CZ2-90VHE-HRP-UNV-L940-CD1-SDWPD1-U

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°	2710	2710	2710
5°	2720	2703	2716
10°	2713	2704	2717
15°	2708	2704	2721
20°	2688	2702	2729
25°	2679	2707	2735
30°	2655	2700	2744
35°	2630	2692	2755
40°	2600	2689	2790
45°	2557	2690	2853
50°	2500	2707	2939
55°	2437	2750	3070
60°	2334	2804	3240
65°	2185	2903	3439
70°	1987	3037	3699
75°	1684	3204	3865
80°	1329	3225	3126
85°	980	2452	2746



TEST NUMBER: P391803

CATALOG NUMBER: 24CZ2-90VHE-HRP-UNV-L940-CD1-SDWPD1-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.1	3.0
10°-20°	549.9	8.6
20°-30°	840.8	13.1
30°-40°	1027.9	16.0
40°-50°	1095.6	17.1
50°-60°	1047.5	16.4
60°-70°	887.4	13.9
70°-80°	596.4	9.3
80°-90°	168.2	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°	1581.8	24.7
0°-40°	2609.7	40.7
0°-60°	4752.7	74.2
0°-90°	6404.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6404.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2014	2014	2014	2014	2014	
5°	2014	2011	2001	2011	2011	191
15°	1944	1944	1941	1957	1954	548
25°	1804	1811	1824	1839	1842	832
35°	1601	1614	1639	1671	1677	1003
45°	1344	1366	1414	1474	1500	1036
55°	1039	1077	1172	1264	1309	925
65°	686	756	912	1032	1080	681
75°	324	442	616	721	743	347
85°	64	130	159	172	178	79
90°	0	0	0	0	0	



TEST NUMBER: P391803

CATALOG NUMBER: 24CZ2-90VHE-HRP-UNV-L940-CD1-SDWPD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2014.1	2014.1	2014.1	2014.1	2014.1
2.5°	2017.3	2017.3	2007.7	2014.1	2014.1
5°	2014.1	2010.9	2001.4	2010.9	2010.9
7.5°	2004.6	2001.4	1995.0	2004.6	2001.4
10°	1985.5	1985.5	1979.2	1988.7	1988.7
12.5°	1969.6	1966.4	1963.3	1976.0	1972.8
15°	1944.2	1944.2	1941.0	1956.9	1953.7
17.5°	1912.4	1915.6	1918.8	1931.5	1934.7
20°	1877.5	1883.8	1887.0	1906.1	1906.1
22.5°	1845.7	1848.9	1855.3	1874.3	1874.3
25°	1804.4	1810.8	1823.5	1839.4	1842.5
27.5°	1763.1	1766.3	1782.2	1804.4	1807.6
30°	1709.1	1718.7	1737.7	1763.1	1766.3
32.5°	1661.5	1671.0	1693.2	1718.7	1725.0
35°	1601.1	1613.8	1639.2	1671.0	1677.4
37.5°	1547.1	1556.6	1588.4	1623.3	1632.9
40°	1480.4	1499.5	1531.2	1572.5	1588.4
42.5°	1413.7	1432.7	1470.9	1524.9	1543.9
45°	1343.8	1366.0	1413.7	1474.0	1499.5
47.5°	1273.9	1299.3	1353.3	1423.2	1451.8
50°	1194.5	1226.2	1293.0	1372.4	1404.1
52.5°	1118.2	1156.4	1229.4	1318.4	1359.7
55°	1038.8	1076.9	1172.2	1264.4	1308.8
57.5°	949.9	1000.7	1105.5	1210.4	1258.0
60°	867.3	914.9	1042.0	1156.4	1204.0
62.5°	778.3	841.9	978.5	1099.2	1146.8
65°	686.2	756.1	911.7	1032.5	1080.1
67.5°	603.6	679.8	845.0	965.7	1013.4
70°	505.1	600.4	772.0	892.7	940.3
72.5°	413.0	517.8	695.7	813.3	857.7
75°	324.0	441.6	616.3	721.1	743.4
77.5°	241.4	365.3	533.7	578.2	562.3
80°	171.5	292.3	416.2	393.9	403.5
82.5°	111.2	222.4	257.3	292.3	301.8
85°	63.5	130.2	158.8	171.5	177.9
87.5°	28.6	47.7	63.5	63.5	60.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)