

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: P685459

Luminaire Tested: **4CZL-5-UNV-M-L940-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685459
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-5-UNV-M-L940-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @90 CRI and 4000K
Light Source: (392) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

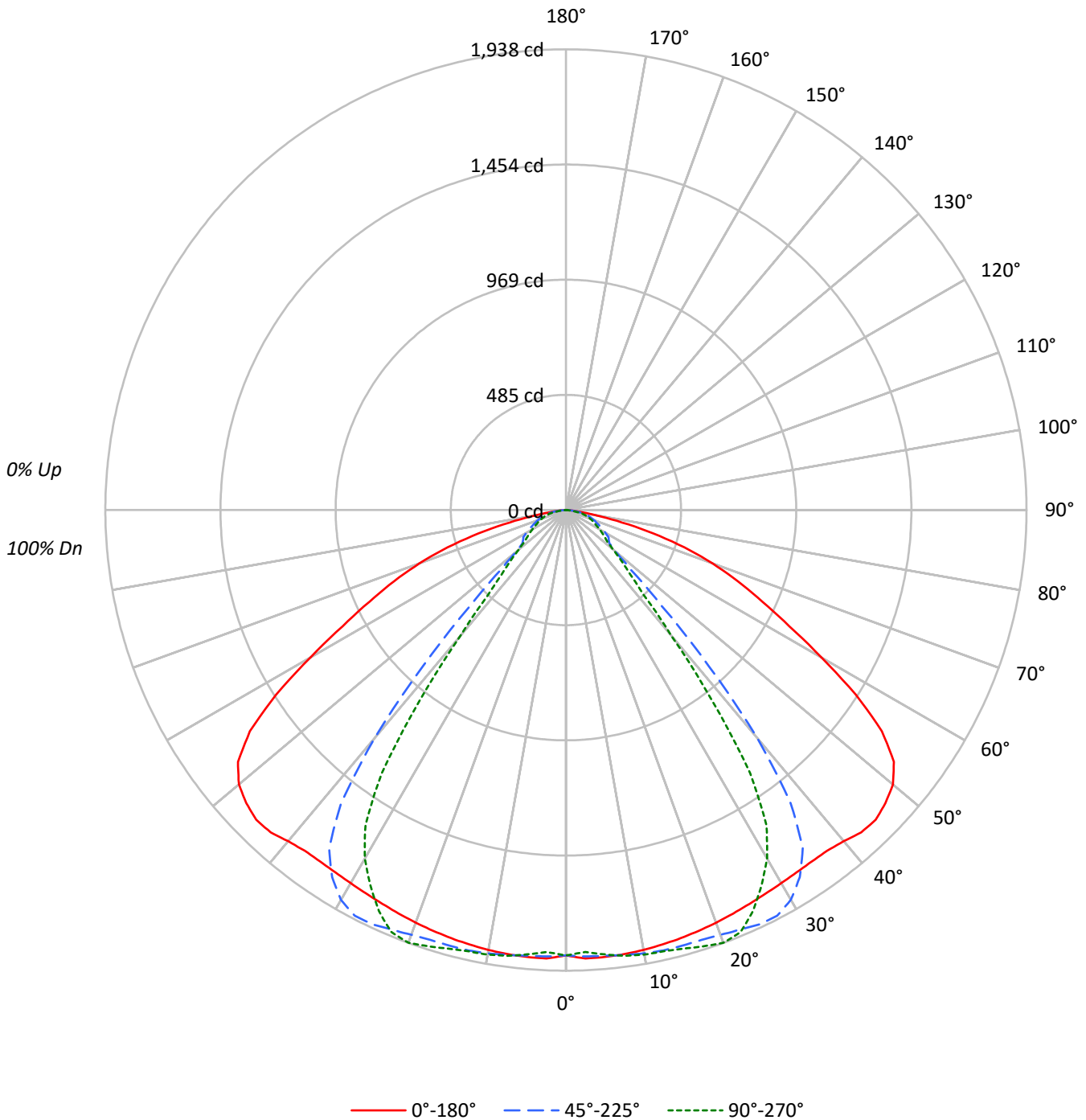
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4047.3 lumens
Efficiency: N/A
Efficacy: 130.6 lumens/watt
Spacing Criteria (0/90/45): 1.48 / 1.28 / 1.22
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31
Input Voltage (V): 120
Input Current (A_{in}): 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				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	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	93	92	90	88
2	103	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	85	82	79	77
3	95	86	80	74	93	85	79	73	82	77	72	79	75	71	77	73	70	77	73	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	70	66	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	64	59	55	53
6	76	65	57	51	75	64	56	51	62	55	51	61	55	50	59	54	50	59	54	50	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	54	49	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	50	45	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	47	41	37	36
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6049	6049	6049
5°	6117	6100	6082
10°	6162	6209	6227
15°	6235	6341	6386
20°	6349	6535	6658
25°	6512	6853	6634
30°	6757	7060	6311
35°	7112	6848	5329
40°	7665	5281	2915
45°	8415	2597	1742
50°	9024	1357	1299
55°	9138	1239	1121
60°	8014	1234	1057
65°	6974	1186	1023
70°	6189	1202	1030
75°	4747	1234	1046
80°	2416	1253	867
85°	952	708	248



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.5	4.4
10°-20°	535.0	13.2
20°-30°	863.4	21.3
30°-40°	1011.2	25.0
40°-50°	688.4	17.0
50°-60°	398.6	9.8
60°-70°	227.9	5.6
70°-80°	117.3	2.9
80°-90°	26.1	0.6
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°	1577.9	39.0
0°-40°	2589.0	64.0
0°-60°	3676.0	90.8
0°-90°	4047.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4047.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1873	1873	1873	1873	1873	
5°	1887	1869	1882	1880	1876	180
15°	1865	1862	1897	1902	1910	528
25°	1828	1853	1924	1894	1862	846
35°	1804	1893	1737	1465	1352	1136
45°	1843	1371	569	383	381	1416
55°	1623	471	220	205	199	1414
65°	913	168	155	137	134	915
75°	380	104	99	86	84	405
85°	26	31	19	9	7	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1873.3	1873.3	1873.3	1873.3	1873.3	1873.3	1873.3	1873.3	1873.3	1873.3	1873.3
2.5°	1888.4	1883.1	1872.5	1868.0	1868.0	1879.6	1881.3	1874.2	1872.9	1866.7	1860.9
5°	1887.1	1881.8	1871.6	1867.6	1868.9	1881.8	1884.9	1879.1	1880.9	1879.1	1876.4
7.5°	1884.4	1878.7	1869.4	1866.7	1870.7	1887.1	1892.4	1889.3	1893.3	1892.4	1891.5
10°	1879.1	1874.7	1865.8	1865.4	1873.3	1893.7	1900.4	1896.4	1897.7	1897.3	1899.1
12.5°	1872.0	1868.0	1860.5	1864.5	1876.0	1897.7	1902.2	1896.0	1897.7	1898.2	1901.3
15°	1864.9	1860.0	1855.2	1864.5	1876.4	1896.8	1901.3	1900.4	1905.7	1906.2	1910.2
17.5°	1856.0	1852.9	1851.6	1864.0	1873.3	1896.0	1906.2	1911.5	1918.6	1920.4	1924.3
20°	1847.6	1845.0	1848.1	1861.8	1872.0	1901.7	1915.9	1923.9	1931.4	1933.7	1937.6
22.5°	1837.4	1835.6	1844.1	1858.7	1874.2	1910.6	1926.6	1927.4	1924.3	1918.6	1921.2
25°	1827.7	1827.7	1840.1	1857.8	1880.9	1923.5	1924.8	1899.5	1876.9	1861.8	1861.8
27.5°	1819.7	1821.5	1837.0	1861.8	1893.7	1924.3	1887.5	1837.4	1804.2	1782.4	1781.1
30°	1812.1	1815.2	1837.0	1872.9	1903.1	1893.3	1821.9	1761.1	1715.0	1694.2	1692.4
32.5°	1806.8	1811.7	1845.0	1889.8	1892.0	1830.8	1737.6	1660.9	1606.4	1575.3	1570.0
35°	1804.2	1809.9	1860.0	1904.4	1847.2	1737.2	1605.0	1486.6	1400.1	1360.2	1351.8
37.5°	1805.9	1816.1	1880.9	1892.0	1735.0	1553.1	1363.3	1193.5	1074.6	1036.9	1010.7
40°	1818.3	1835.6	1897.3	1790.9	1499.5	1252.9	1001.4	818.7	736.7	709.6	691.4
42.5°	1839.2	1856.5	1854.3	1559.3	1171.3	890.1	645.3	535.7	495.8	491.4	483.0
45°	1842.7	1849.4	1715.0	1256.4	852.0	568.6	415.6	383.2	382.3	385.4	381.4
47.5°	1824.1	1811.3	1514.1	961.1	586.7	367.7	312.7	318.0	320.7	318.4	315.3
50°	1796.2	1748.7	1288.8	706.5	391.2	270.1	272.8	277.6	268.3	262.1	258.6
52.5°	1739.4	1647.2	1038.7	500.7	270.5	230.6	251.9	237.7	224.4	220.9	220.4
55°	1623.2	1496.4	799.2	361.0	206.7	220.0	224.0	205.8	201.8	200.0	199.1
57.5°	1446.3	1308.8	600.9	260.8	181.4	212.4	194.7	187.6	183.6	182.3	180.9
60°	1240.9	1099.0	447.9	191.6	176.1	191.1	176.5	169.9	165.4	163.7	163.7
62.5°	1059.1	909.6	331.3	155.7	174.7	172.5	159.2	152.1	149.5	148.6	147.7
65°	912.7	731.8	239.0	144.1	163.2	155.2	142.4	137.5	135.7	133.9	133.9
67.5°	782.3	573.0	176.1	141.5	149.9	139.7	129.9	126.0	123.7	123.3	122.8
70°	655.5	422.2	133.9	138.4	142.4	127.3	118.0	113.1	110.4	109.1	109.1
72.5°	522.0	289.6	106.9	127.3	130.4	112.6	103.3	99.8	97.6	96.2	95.8
75°	380.5	181.8	94.0	106.9	112.2	98.9	89.6	86.5	85.6	84.3	83.8
77.5°	242.2	108.7	80.3	87.4	91.8	83.4	76.3	72.3	71.8	70.5	70.1
80°	129.9	69.6	64.3	68.7	71.4	67.4	59.0	51.0	48.8	47.0	46.6
82.5°	60.3	44.3	47.9	51.9	53.2	43.0	35.5	31.9	29.7	27.5	26.2
85°	25.7	23.9	29.7	31.9	26.2	19.1	12.4	9.3	7.5	7.1	6.7
87.5°	9.3	9.3	11.1	7.5	4.4	3.5	3.5	3.1	2.7	2.2	2.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)