

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: P388352

Luminaire Tested: **24CZ2-120VHE-SQR-UNV-L940-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: P388352
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: 24CZ2-120VHE-SQR-UNV-L940-CD2-U
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SQUARE LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10017.7 lumens
Efficiency: N/A
Efficacy: 119.8 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

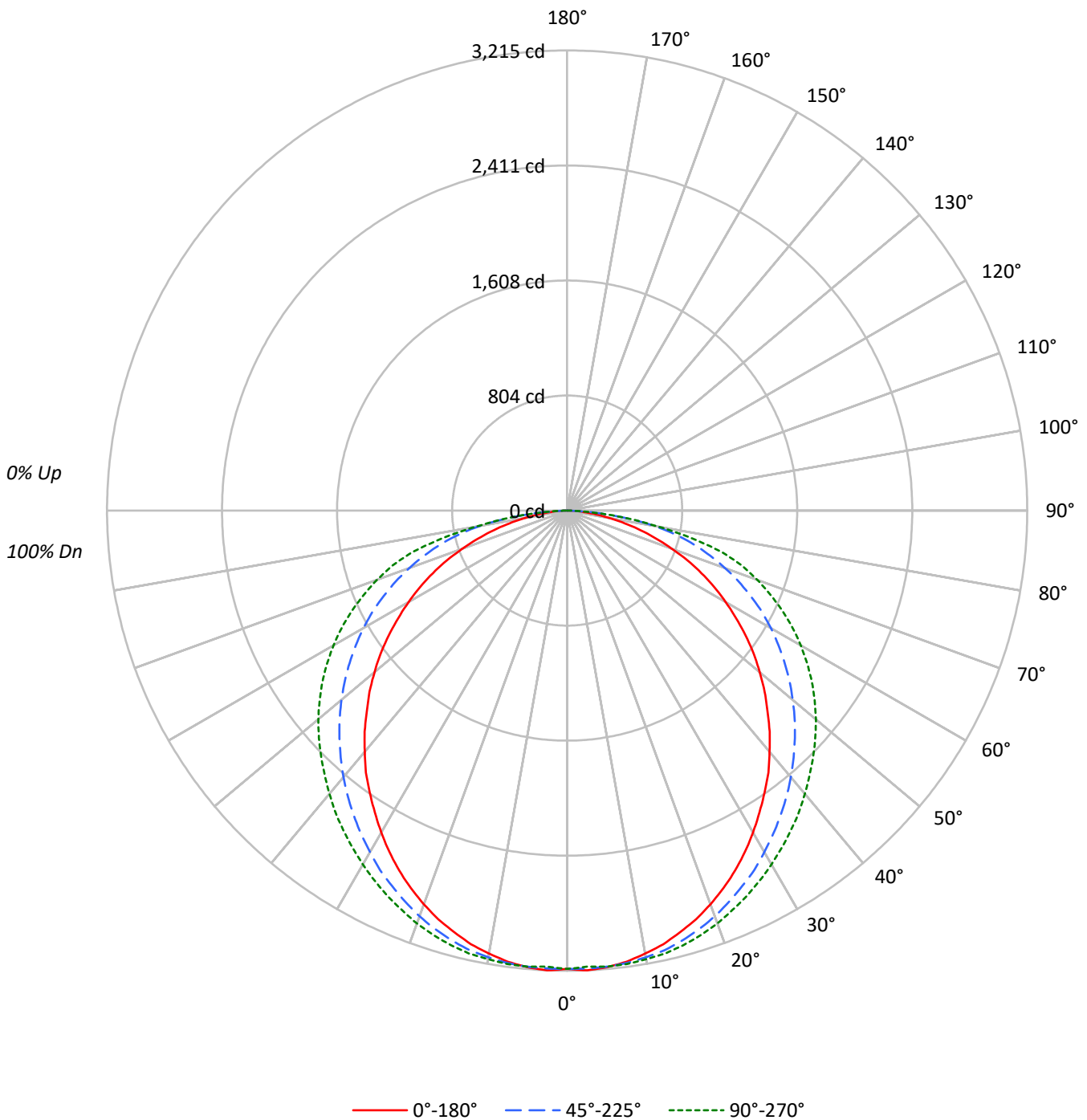
Input Watts (W): 83.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P388352

CATALOG NUMBER: 24CZ2-120VHE-SQR-UNV-L940-CD2-U

Luminous Intensity Polar Plot





TEST NUMBER: P388352

CATALOG NUMBER: 24CZ2-120VHE-SQR-UNV-L940-CD2-U

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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82	82	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67	67	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56	56	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47	47	47
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41	41	41
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35	35	35
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31	31	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28	28	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25	25	25
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22	22	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4308	4308	4308
5°	4325	4320	4320
10°	4294	4330	4348
15°	4249	4331	4377
20°	4192	4320	4395
25°	4120	4297	4410
30°	4034	4281	4435
35°	3950	4271	4477
40°	3864	4271	4538
45°	3764	4280	4626
50°	3677	4307	4750
55°	3570	4353	4896
60°	3445	4424	5074
65°	3296	4507	5287
70°	3058	4620	5557
75°	2769	4781	5813
80°	2332	4793	4998
85°	1788	3626	3626



TEST NUMBER: P388352

CATALOG NUMBER: 24CZ2-120VHE-SQR-UNV-L940-CD2-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	304.0	3.0
10°-20°	874.5	8.7
20°-30°	1328.3	13.3
30°-40°	1615.7	16.1
40°-50°	1720.2	17.2
50°-60°	1638.4	16.4
60°-70°	1370.2	13.7
70°-80°	913.5	9.1
80°-90°	252.8	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°	2506.8	25.0
0°-40°	4122.5	41.2
0°-60°	7481.2	74.7
0°-90°	10017.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10017.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3202	3202	3202	3202	3202	
5°	3202	3182	3199	3199	3199	304
15°	3050	3057	3110	3133	3143	860
25°	2775	2812	2894	2944	2971	1278
35°	2405	2474	2600	2686	2726	1505
45°	1978	2084	2249	2375	2431	1529
55°	1522	1654	1856	2018	2087	1360
65°	1035	1188	1416	1591	1661	1023
75°	533	701	920	1075	1118	564
85°	116	215	235	232	235	140
90°	0	0	0	0	0	



TEST NUMBER: P388352

CATALOG NUMBER: 24CZ2-120VHE-SQR-UNV-L940-CD2-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3202.1	3202.1	3202.1	3202.1	3202.1
2.5°	3215.4	3192.2	3202.1	3202.1	3188.9
5°	3202.1	3182.3	3198.8	3198.8	3198.8
7.5°	3179.0	3162.4	3188.9	3195.5	3195.5
10°	3142.6	3136.0	3169.1	3179.0	3182.3
12.5°	3102.9	3099.6	3145.9	3159.1	3169.1
15°	3050.0	3056.6	3109.5	3132.7	3142.6
17.5°	2993.7	3007.0	3066.5	3099.6	3109.5
20°	2927.6	2947.4	3016.9	3050.0	3069.8
22.5°	2854.8	2884.6	2957.4	2997.0	3020.2
25°	2775.4	2811.8	2894.5	2944.1	2970.6
27.5°	2689.4	2735.7	2831.6	2887.9	2914.3
30°	2596.8	2649.7	2755.6	2821.7	2854.8
32.5°	2500.8	2563.7	2679.5	2752.3	2792.0
35°	2404.9	2474.4	2600.1	2686.1	2725.8
37.5°	2309.0	2378.5	2517.4	2610.0	2659.6
40°	2199.8	2282.5	2431.4	2533.9	2583.5
42.5°	2094.0	2183.3	2342.1	2454.5	2507.5
45°	1978.2	2084.0	2249.4	2375.1	2431.4
47.5°	1872.3	1978.2	2156.8	2289.1	2352.0
50°	1756.5	1869.0	2057.6	2203.1	2269.3
52.5°	1644.1	1759.9	1958.3	2113.8	2180.0
55°	1521.7	1654.0	1855.8	2017.9	2087.3
57.5°	1399.3	1541.5	1749.9	1918.6	1988.1
60°	1280.2	1425.7	1644.1	1812.8	1885.6
62.5°	1161.1	1306.7	1534.9	1706.9	1776.4
65°	1035.4	1187.6	1415.8	1591.1	1660.6
67.5°	909.7	1068.5	1296.7	1472.1	1538.2
70°	777.4	946.1	1174.3	1346.4	1412.5
72.5°	655.0	823.7	1048.6	1217.3	1280.2
75°	532.6	701.3	919.6	1075.1	1118.1
77.5°	413.5	582.2	777.4	879.9	889.9
80°	301.0	459.8	618.6	648.4	645.1
82.5°	201.8	344.0	426.7	430.0	440.0
85°	115.8	215.0	234.9	231.6	234.9
87.5°	46.3	76.1	66.2	49.6	49.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)