

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: P388944

Luminaire Tested: **24CZ2-60VHE-SQR-UNV-L930-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: P388944
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: 24CZ2-60VHE-SQR-UNV-L930-CD1-SDWPD1-U
Description: 2x4 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND SQUARE LENS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4681.2 lumens
Efficiency: N/A
Efficacy: 121.0 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

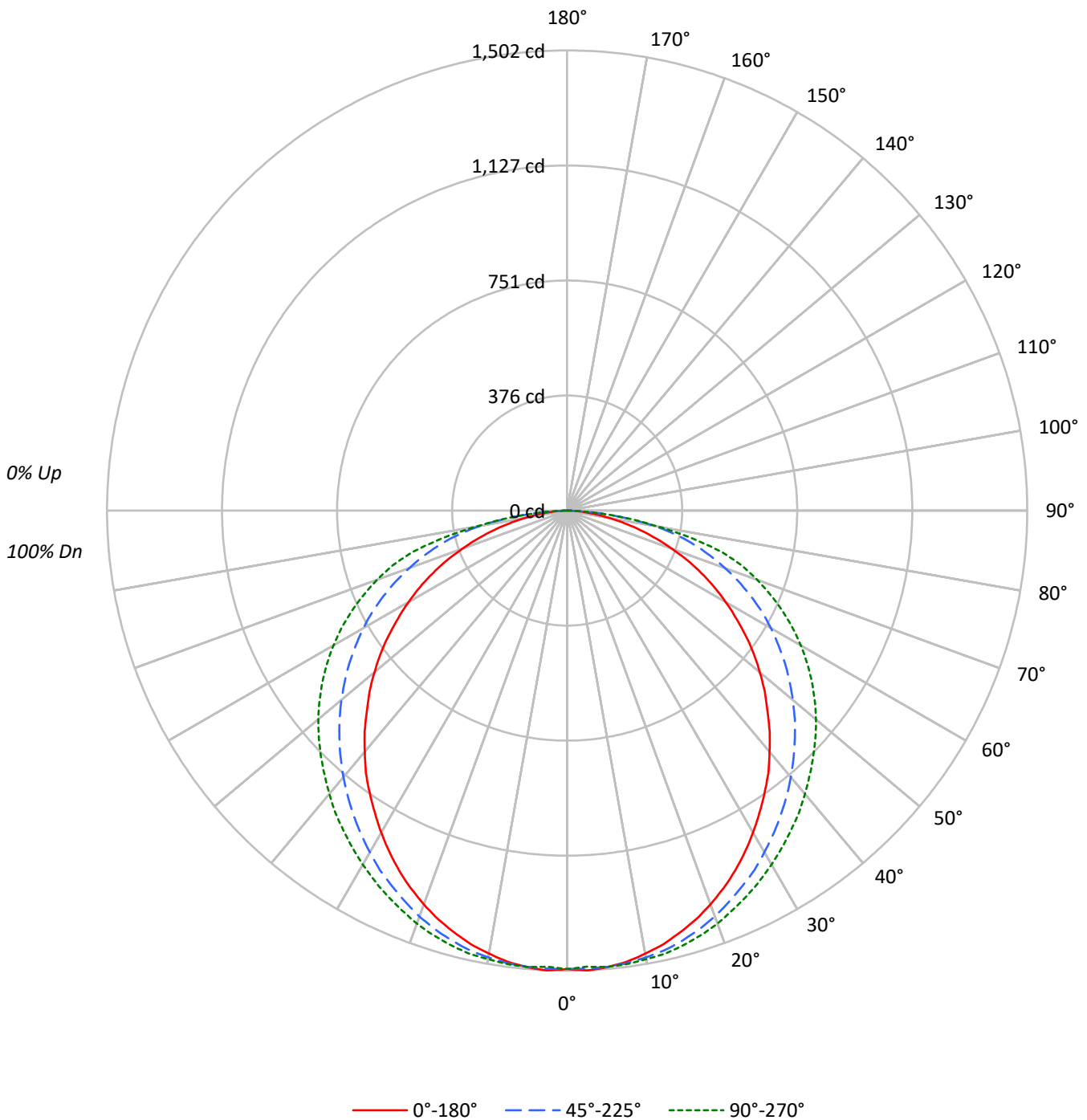
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2013	2013	2013
5°	2021	2019	2019
10°	2006	2023	2032
15°	1985	2024	2046
20°	1959	2019	2054
25°	1925	2008	2061
30°	1885	2001	2073
35°	1846	1996	2092
40°	1806	1996	2121
45°	1759	2000	2162
50°	1718	2013	2220
55°	1668	2034	2288
60°	1610	2067	2371
65°	1540	2106	2471
70°	1429	2159	2597
75°	1294	2234	2716
80°	1090	2240	2335
85°	835	1695	1695



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.0	3.0
10°-20°	408.7	8.7
20°-30°	620.7	13.3
30°-40°	755.0	16.1
40°-50°	803.9	17.2
50°-60°	765.6	16.4
60°-70°	640.3	13.7
70°-80°	426.9	9.1
80°-90°	118.1	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°	1171.4	25.0
0°-40°	1926.4	41.2
0°-60°	3495.9	74.7
0°-90°	4681.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4681.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1496	1496	1496	1496	1496	
5°	1496	1487	1495	1495	1495	142
15°	1425	1428	1453	1464	1468	402
25°	1297	1314	1353	1376	1388	597
35°	1124	1156	1215	1255	1274	703
45°	924	974	1051	1110	1136	715
55°	711	773	867	943	975	636
65°	484	555	662	744	776	478
75°	249	328	430	502	522	264
85°	54	100	110	108	110	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1496.3	1496.3	1496.3	1496.3	1496.3
2.5°	1502.5	1491.7	1496.3	1496.3	1490.2
5°	1496.3	1487.1	1494.8	1494.8	1494.8
7.5°	1485.5	1477.8	1490.2	1493.2	1493.2
10°	1468.5	1465.4	1480.9	1485.5	1487.1
12.5°	1450.0	1448.4	1470.1	1476.2	1480.9
15°	1425.2	1428.3	1453.1	1463.9	1468.5
17.5°	1399.0	1405.1	1433.0	1448.4	1453.1
20°	1368.0	1377.3	1409.8	1425.2	1434.5
22.5°	1334.0	1347.9	1381.9	1400.5	1411.3
25°	1296.9	1313.9	1352.6	1375.8	1388.1
27.5°	1256.7	1278.4	1323.2	1349.5	1361.9
30°	1213.5	1238.2	1287.7	1318.6	1334.0
32.5°	1168.6	1198.0	1252.1	1286.1	1304.7
35°	1123.8	1156.3	1215.0	1255.2	1273.7
37.5°	1079.0	1111.4	1176.4	1219.6	1242.8
40°	1028.0	1066.6	1136.2	1184.1	1207.3
42.5°	978.5	1020.2	1094.4	1147.0	1171.7
45°	924.4	973.9	1051.1	1109.9	1136.2
47.5°	874.9	924.4	1007.9	1069.7	1099.1
50°	820.8	873.4	961.5	1029.5	1060.4
52.5°	768.3	822.4	915.1	987.8	1018.7
55°	711.1	772.9	867.2	942.9	975.4
57.5°	653.9	720.3	817.7	896.6	929.0
60°	598.2	666.2	768.3	847.1	881.1
62.5°	542.6	610.6	717.3	797.6	830.1
65°	483.8	554.9	661.6	743.5	776.0
67.5°	425.1	499.3	606.0	687.9	718.8
70°	363.3	442.1	548.8	629.1	660.1
72.5°	306.1	384.9	490.0	568.9	598.2
75°	248.9	327.7	429.7	502.4	522.5
77.5°	193.2	272.1	363.3	411.2	415.8
80°	140.7	214.9	289.1	303.0	301.4
82.5°	94.3	160.8	199.4	201.0	205.6
85°	54.1	100.5	109.8	108.2	109.8
87.5°	21.6	35.6	30.9	23.2	23.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)