

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: P388951

Luminaire Tested: **24CZ2-60VHE-SQR-UNV-L940-CD1-SWPD1-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: P388951
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-L940-CD1-SWPD1-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: 4905.8 lumens
Efficiency: N/A
Efficacy: 126.8 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

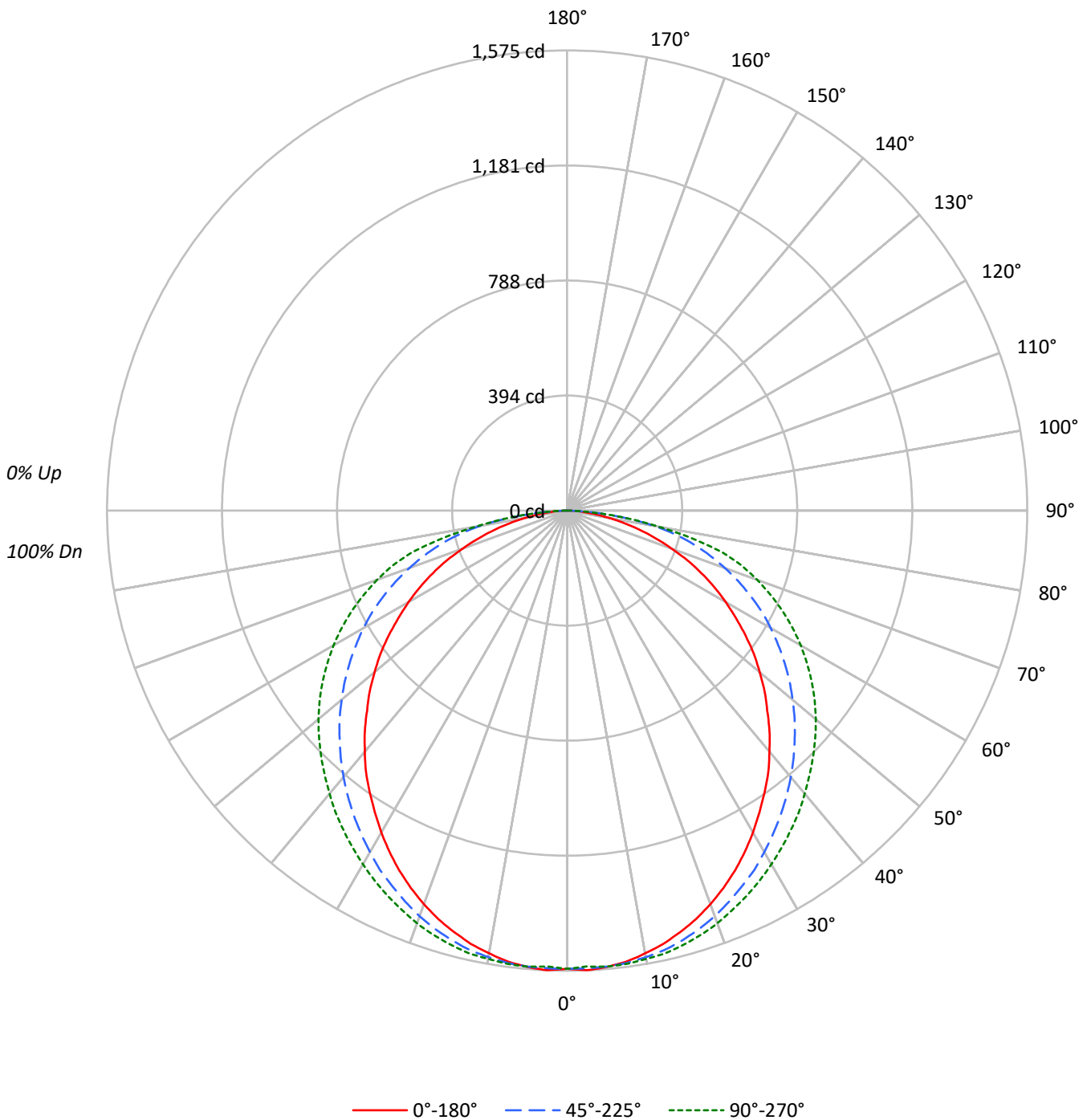
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2110	2110	2110
5°	2118	2116	2116
10°	2103	2120	2129
15°	2081	2121	2144
20°	2053	2115	2152
25°	2018	2104	2160
30°	1976	2096	2172
35°	1934	2091	2193
40°	1892	2091	2222
45°	1843	2096	2266
50°	1801	2109	2326
55°	1748	2132	2398
60°	1687	2167	2485
65°	1614	2207	2589
70°	1498	2262	2721
75°	1356	2341	2847
80°	1142	2347	2448
85°	875	1775	1775



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.9	3.0
10°-20°	428.3	8.7
20°-30°	650.5	13.3
30°-40°	791.2	16.1
40°-50°	842.4	17.2
50°-60°	802.4	16.4
60°-70°	671.0	13.7
70°-80°	447.4	9.1
80°-90°	123.8	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°	1227.6	25.0
0°-40°	2018.9	41.2
0°-60°	3663.6	74.7
0°-90°	4905.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4905.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1568	1568	1568	1568	1568	
5°	1568	1558	1566	1566	1566	149
15°	1494	1497	1523	1534	1539	421
25°	1359	1377	1418	1442	1455	626
35°	1178	1212	1273	1315	1335	737
45°	969	1021	1102	1163	1191	749
55°	745	810	909	988	1022	666
65°	507	582	693	779	813	501
75°	261	343	450	526	548	276
85°	57	105	115	113	115	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1568.1	1568.1	1568.1	1568.1	1568.1
2.5°	1574.6	1563.3	1568.1	1568.1	1561.7
5°	1568.1	1558.4	1566.5	1566.5	1566.5
7.5°	1556.8	1548.7	1561.7	1564.9	1564.9
10°	1539.0	1535.7	1551.9	1556.8	1558.4
12.5°	1519.5	1517.9	1540.6	1547.1	1551.9
15°	1493.6	1496.9	1522.8	1534.1	1539.0
17.5°	1466.1	1472.6	1501.7	1517.9	1522.8
20°	1433.7	1443.4	1477.4	1493.6	1503.3
22.5°	1398.0	1412.6	1448.3	1467.7	1479.0
25°	1359.2	1377.0	1417.5	1441.8	1454.7
27.5°	1317.0	1339.7	1386.7	1414.2	1427.2
30°	1271.7	1297.6	1349.4	1381.8	1398.0
32.5°	1224.7	1255.5	1312.2	1347.8	1367.3
35°	1177.7	1211.7	1273.3	1315.4	1334.9
37.5°	1130.7	1164.8	1232.8	1278.2	1302.5
40°	1077.3	1117.8	1190.7	1240.9	1265.2
42.5°	1025.4	1069.2	1146.9	1202.0	1227.9
45°	968.7	1020.6	1101.6	1163.1	1190.7
47.5°	916.9	968.7	1056.2	1121.0	1151.8
50°	860.2	915.3	1007.6	1078.9	1111.3
52.5°	805.1	861.8	959.0	1035.2	1067.6
55°	745.2	810.0	908.8	988.2	1022.2
57.5°	685.2	754.9	857.0	939.6	973.6
60°	626.9	698.2	805.1	887.7	923.4
62.5°	568.6	639.9	751.7	835.9	869.9
65°	507.1	581.6	693.3	779.2	813.2
67.5°	445.5	523.3	635.0	720.9	753.3
70°	380.7	463.3	575.1	659.3	691.7
72.5°	320.8	403.4	513.5	596.1	626.9
75°	260.8	343.4	450.4	526.5	547.6
77.5°	202.5	285.1	380.7	430.9	435.8
80°	147.4	225.2	302.9	317.5	315.9
82.5°	98.8	168.5	209.0	210.6	215.5
85°	56.7	105.3	115.0	113.4	115.0
87.5°	22.7	37.3	32.4	24.3	24.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)