

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: P388715

Luminaire Tested: **24CZ2-45HE-SQR-UNV-L950-CD1-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: P388715  
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: 24CZ2-45HE-SQR-UNV-L950-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3989.9 lumens  
Efficiency: N/A  
Efficacy: 113.0 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

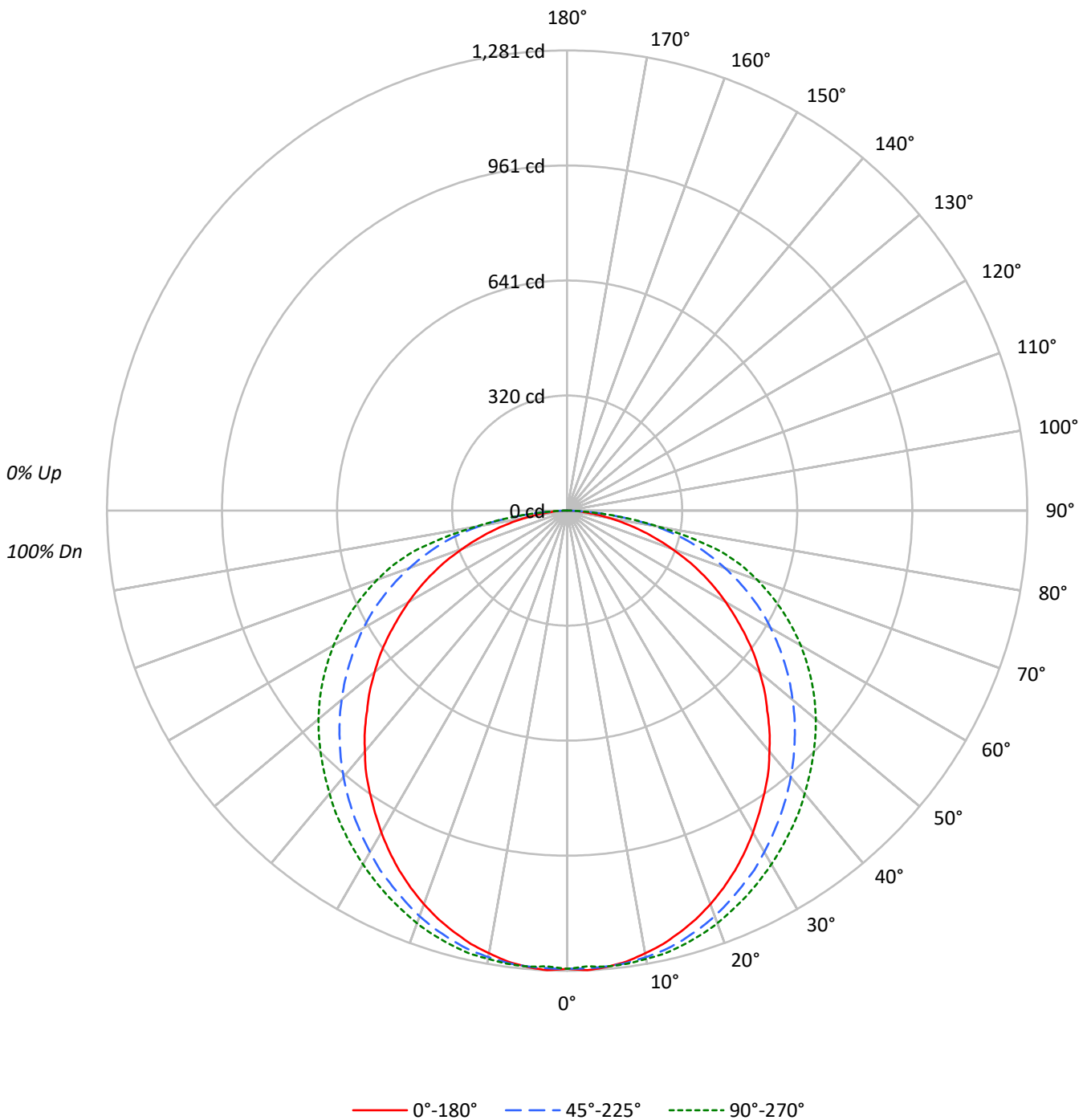
Input Watts (W): 35.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1716	1716	1716
5°	1723	1721	1721
10°	1710	1724	1732
15°	1692	1725	1744
20°	1670	1720	1751
25°	1641	1711	1756
30°	1607	1705	1766
35°	1573	1701	1783
40°	1539	1701	1807
45°	1499	1705	1843
50°	1464	1715	1892
55°	1422	1734	1950
60°	1372	1762	2021
65°	1313	1795	2106
70°	1218	1840	2213
75°	1103	1904	2315
80°	929	1909	1991
85°	712	1443	1443



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.1	3.0
10°-20°	348.3	8.7
20°-30°	529.1	13.3
30°-40°	643.5	16.1
40°-50°	685.1	17.2
50°-60°	652.6	16.4
60°-70°	545.7	13.7
70°-80°	363.8	9.1
80°-90°	100.7	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°	998.4	25.0
0°-40°	1641.9	41.2
0°-60°	2979.7	74.7
0°-90°	3989.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3989.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1275	1275	1275	1275	1275	
5°	1275	1268	1274	1274	1274	121
15°	1215	1217	1238	1248	1252	343
25°	1105	1120	1153	1173	1183	509
35°	958	986	1036	1070	1086	599
45°	788	830	896	946	968	609
55°	606	659	739	804	831	542
65°	412	473	564	634	661	407
75°	212	279	366	428	445	225
85°	46	86	94	92	94	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1275.4	1275.4	1275.4	1275.4	1275.4
2.5°	1280.6	1271.4	1275.4	1275.4	1270.1
5°	1275.4	1267.5	1274.0	1274.0	1274.0
7.5°	1266.1	1259.6	1270.1	1272.7	1272.7
10°	1251.7	1249.0	1262.2	1266.1	1267.5
12.5°	1235.8	1234.5	1253.0	1258.2	1262.2
15°	1214.8	1217.4	1238.5	1247.7	1251.7
17.5°	1192.4	1197.6	1221.3	1234.5	1238.5
20°	1166.0	1173.9	1201.6	1214.8	1222.7
22.5°	1137.0	1148.9	1177.9	1193.7	1202.9
25°	1105.4	1119.9	1152.8	1172.6	1183.1
27.5°	1071.1	1089.6	1127.8	1150.2	1160.7
30°	1034.3	1055.3	1097.5	1123.9	1137.0
32.5°	996.1	1021.1	1067.2	1096.2	1112.0
35°	957.8	985.5	1035.6	1069.8	1085.6
37.5°	919.6	947.3	1002.6	1039.5	1059.3
40°	876.2	909.1	968.4	1009.2	1029.0
42.5°	834.0	869.6	932.8	977.6	998.7
45°	787.9	830.0	895.9	946.0	968.4
47.5°	745.7	787.9	859.0	911.7	936.8
50°	699.6	744.4	819.5	877.5	903.8
52.5°	654.8	700.9	780.0	841.9	868.3
55°	606.1	658.8	739.1	803.7	831.4
57.5°	557.3	614.0	697.0	764.2	791.8
60°	509.9	567.9	654.8	722.0	751.0
62.5°	462.5	520.4	611.3	679.8	707.5
65°	412.4	473.0	563.9	633.7	661.4
67.5°	362.3	425.6	516.5	586.3	612.7
70°	309.6	376.8	467.7	536.2	562.6
72.5°	260.9	328.1	417.7	484.8	509.9
75°	212.1	279.3	366.3	428.2	445.3
77.5°	164.7	231.9	309.6	350.5	354.4
80°	119.9	183.1	246.4	258.2	256.9
82.5°	80.4	137.0	170.0	171.3	175.2
85°	46.1	85.6	93.5	92.2	93.5
87.5°	18.4	30.3	26.4	19.8	19.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)