

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: P274833

Luminaire Tested: **24CZ2-65HE-RDP-UNV-L940-CD1-U**

Issue Date: 3/3/2020

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: P274833  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-65HE-RDP-UNV-L940-CD1-U  
Description: 2'x4' TROFFER LED MODULE,SMOOTH LENS WITH INSERT, 90CRI  
Light Source: (392) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3786.0 lumens  
Efficiency: N/A  
Efficacy: 77.4 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

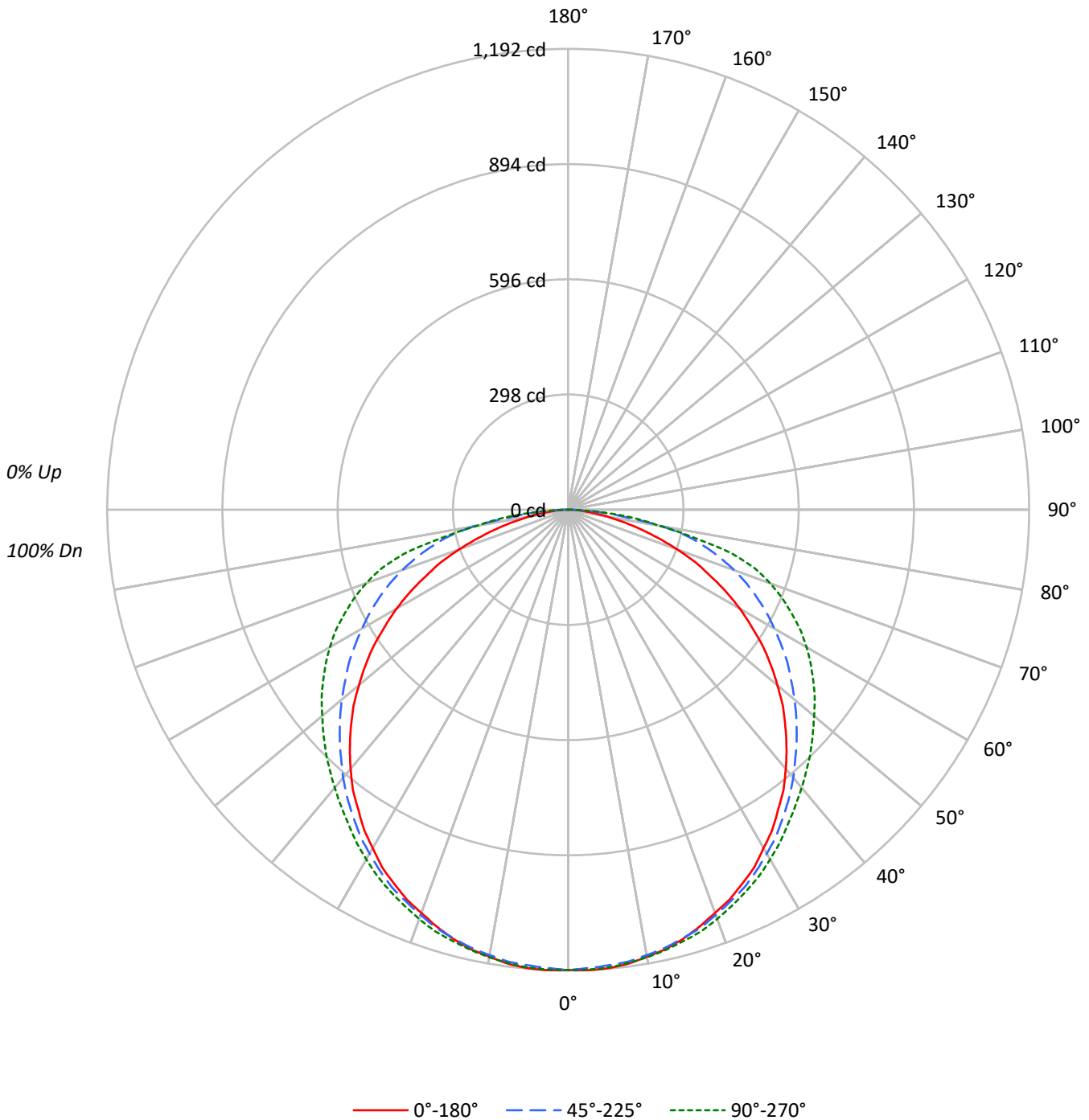
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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		88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		34	28	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1602	1602	1602
5°	1608	1598	1605
10°	1604	1598	1606
15°	1601	1598	1609
20°	1589	1597	1613
25°	1583	1600	1617
30°	1570	1596	1622
35°	1555	1592	1629
40°	1537	1590	1649
45°	1512	1590	1687
50°	1478	1600	1737
55°	1441	1625	1815
60°	1380	1658	1915
65°	1291	1716	2033
70°	1175	1795	2187
75°	996	1894	2284
80°	786	1906	1848
85°	580	1450	1624



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.9	3.0
10°-20°	325.0	8.6
20°-30°	497.0	13.1
30°-40°	607.6	16.0
40°-50°	647.6	17.1
50°-60°	619.2	16.4
60°-70°	524.5	13.9
70°-80°	352.5	9.3
80°-90°	99.5	2.6
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°	935.0	24.7
0°-40°	1542.7	40.7
0°-60°	2809.5	74.2
0°-90°	3786.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3786.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1191	1191	1191	1191	1191	
5°	1191	1189	1183	1189	1189	113
15°	1149	1149	1147	1157	1155	324
25°	1067	1070	1078	1087	1089	492
35°	946	954	969	988	992	593
45°	794	808	836	871	886	613
55°	614	637	693	747	774	547
65°	406	447	539	610	638	403
75°	192	261	364	426	439	205
85°	38	77	94	101	105	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1190.6	1190.6	1190.6	1190.6	1190.6
2.5°	1192.5	1192.5	1186.8	1190.6	1190.6
5°	1190.6	1188.7	1183.1	1188.7	1188.7
7.5°	1185.0	1183.1	1179.3	1185.0	1183.1
10°	1173.7	1173.7	1169.9	1175.6	1175.6
12.5°	1164.3	1162.4	1160.5	1168.1	1166.2
15°	1149.3	1149.3	1147.4	1156.8	1154.9
17.5°	1130.5	1132.4	1134.3	1141.8	1143.6
20°	1109.8	1113.6	1115.5	1126.7	1126.7
22.5°	1091.1	1092.9	1096.7	1108.0	1108.0
25°	1066.6	1070.4	1077.9	1087.3	1089.2
27.5°	1042.2	1044.1	1053.5	1066.6	1068.5
30°	1010.3	1015.9	1027.2	1042.2	1044.1
32.5°	982.1	987.8	1000.9	1015.9	1019.7
35°	946.5	954.0	969.0	987.8	991.5
37.5°	914.5	920.2	939.0	959.6	965.2
40°	875.1	886.4	905.1	929.6	939.0
42.5°	835.7	846.9	869.5	901.4	912.7
45°	794.4	807.5	835.7	871.3	886.4
47.5°	753.0	768.1	800.0	841.3	858.2
50°	706.1	724.9	764.3	811.3	830.0
52.5°	661.0	683.6	726.7	779.3	803.7
55°	614.1	636.6	692.9	747.4	773.7
57.5°	561.5	591.5	653.5	715.5	743.6
60°	512.7	540.8	616.0	683.6	711.7
62.5°	460.1	497.6	578.4	649.8	677.9
65°	405.6	446.9	539.0	610.3	638.5
67.5°	356.8	401.9	499.5	570.9	599.1
70°	298.6	354.9	456.3	527.7	555.9
72.5°	244.1	306.1	411.3	480.7	507.0
75°	191.5	261.0	364.3	426.3	439.4
77.5°	142.7	216.0	315.5	341.8	332.4
80°	101.4	172.8	246.0	232.9	238.5
82.5°	65.7	131.5	152.1	172.8	178.4
85°	37.6	77.0	93.9	101.4	105.2
87.5°	16.9	28.2	37.6	37.6	35.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)