

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: P474513

Luminaire Tested: **24CZ2-40-HRP-UNV-L850-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474513  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-40-HRP-UNV-L850-CD1-U  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS W/ HRP INSERT  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

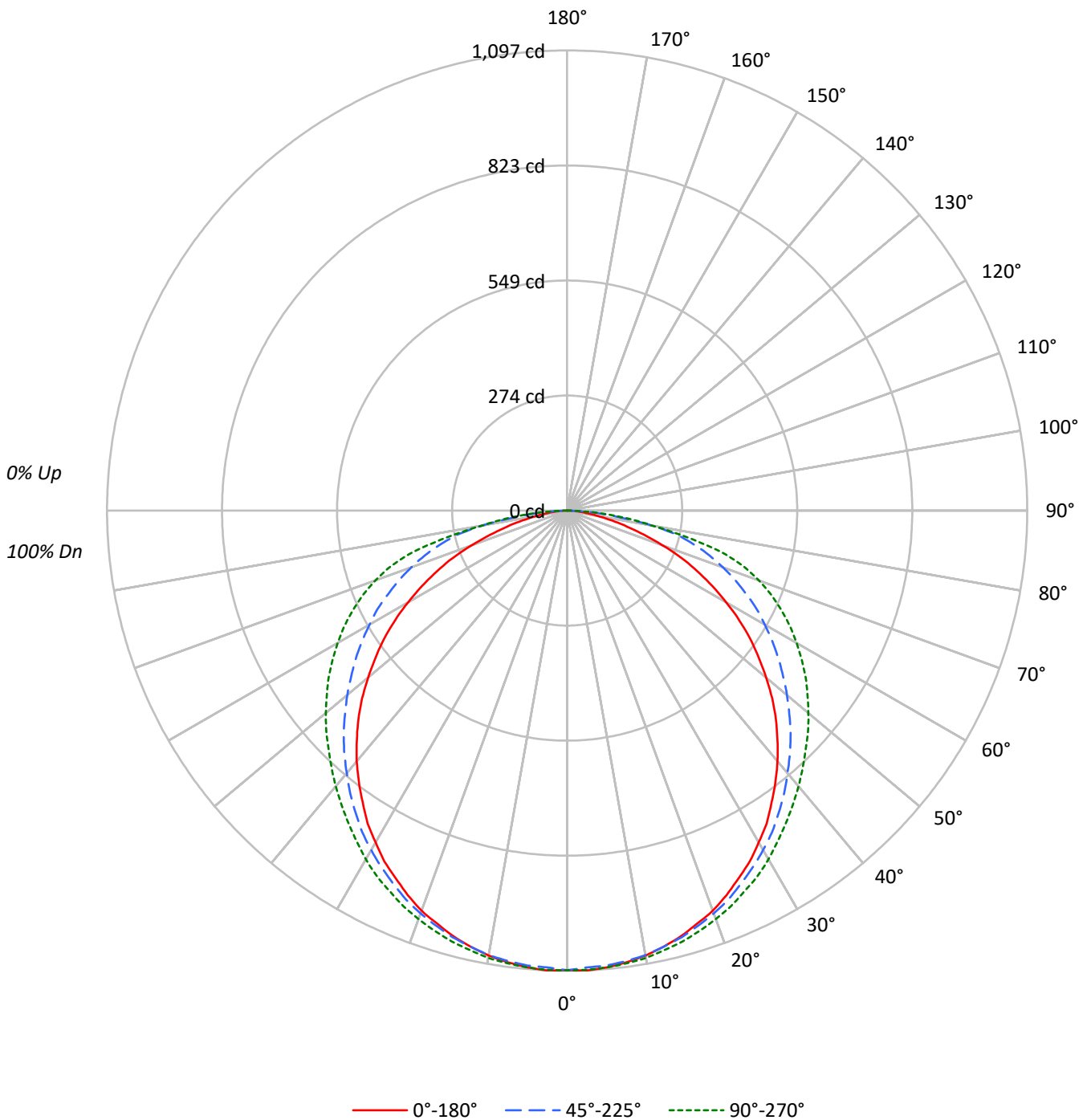
Lumens per Lamp: N/A  
Luminaire Lumens: 3377.2 lumens  
Efficiency: N/A  
Efficacy: 106.9 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 31.6  
Input Voltage (V): 120  
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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

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

	0°	45°	90°
0°	1474	1474	1474
5°	1476	1470	1476
10°	1472	1470	1480
15°	1463	1467	1481
20°	1454	1463	1484
25°	1436	1457	1486
30°	1419	1452	1491
35°	1396	1444	1493
40°	1371	1436	1507
45°	1340	1434	1531
50°	1296	1432	1572
55°	1250	1443	1628
60°	1179	1465	1700
65°	1089	1499	1796
70°	951	1552	1913
75°	771	1632	1977
80°	570	1600	1600
85°	437	1178	1331



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.8	3.1
10°-20°	298.1	8.8
20°-30°	453.8	13.4
30°-40°	551.0	16.3
40°-50°	582.1	17.2
50°-60°	549.3	16.3
60°-70°	456.7	13.5
70°-80°	300.5	8.9
80°-90°	81.9	2.4
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°	855.6	25.3
0°-40°	1406.6	41.7
0°-60°	2538.1	75.2
0°-90°	3377.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3377.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1096	1096	1096	1096	1096	
5°	1093	1093	1089	1093	1093	104
15°	1050	1052	1053	1063	1063	296
25°	967	973	981	998	1001	446
35°	850	860	879	902	909	532
45°	704	718	754	790	804	542
55°	533	556	615	673	694	475
65°	342	382	471	540	564	338
75°	148	216	314	372	380	160
85°	28	62	76	85	86	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1095.7	1095.7	1095.7	1095.7	1095.7
2.5°	1097.2	1095.7	1090.1	1095.7	1095.7
5°	1093.0	1093.0	1088.6	1093.0	1093.0
7.5°	1085.8	1085.8	1082.9	1088.6	1088.6
10°	1077.3	1077.3	1076.0	1082.9	1082.9
12.5°	1064.7	1066.0	1064.7	1073.1	1073.1
15°	1050.4	1051.9	1053.3	1063.2	1063.2
17.5°	1032.2	1034.9	1037.8	1049.0	1050.4
20°	1015.2	1016.5	1022.1	1034.9	1036.4
22.5°	992.5	996.7	1003.9	1016.5	1020.8
25°	967.0	972.7	981.2	998.2	1001.0
27.5°	943.1	947.3	958.6	977.0	982.7
30°	913.3	920.4	934.5	952.9	960.0
32.5°	885.0	892.1	909.1	928.8	934.5
35°	849.8	859.6	879.4	902.0	909.1
37.5°	815.8	825.7	849.8	875.1	883.7
40°	780.4	791.7	817.3	846.9	858.2
42.5°	742.2	757.8	786.1	818.6	831.3
45°	704.1	718.3	753.5	790.3	804.5
47.5°	663.1	680.1	718.3	762.1	779.1
50°	619.3	640.5	684.3	732.4	750.8
52.5°	575.5	599.4	648.9	702.6	722.5
55°	533.0	555.6	615.0	673.0	694.2
57.5°	486.4	514.7	579.7	641.8	663.1
60°	438.2	469.4	544.3	609.3	631.9
62.5°	390.2	425.6	510.3	575.5	599.4
65°	342.2	381.8	470.9	540.1	564.2
67.5°	295.4	339.3	434.0	503.4	527.3
70°	241.8	296.9	394.4	462.3	486.4
72.5°	192.3	256.0	356.2	419.9	441.1
75°	148.4	216.4	313.9	371.8	380.3
77.5°	108.8	176.7	270.0	289.8	291.2
80°	73.6	141.3	206.5	203.6	206.5
82.5°	48.0	106.1	130.0	145.7	147.0
85°	28.3	62.3	76.3	84.9	86.2
87.5°	14.1	21.2	26.8	28.3	31.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)