

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: P474363

Luminaire Tested: **24CZ2-40-HRP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474363  
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-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS W/ HRP INSERT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

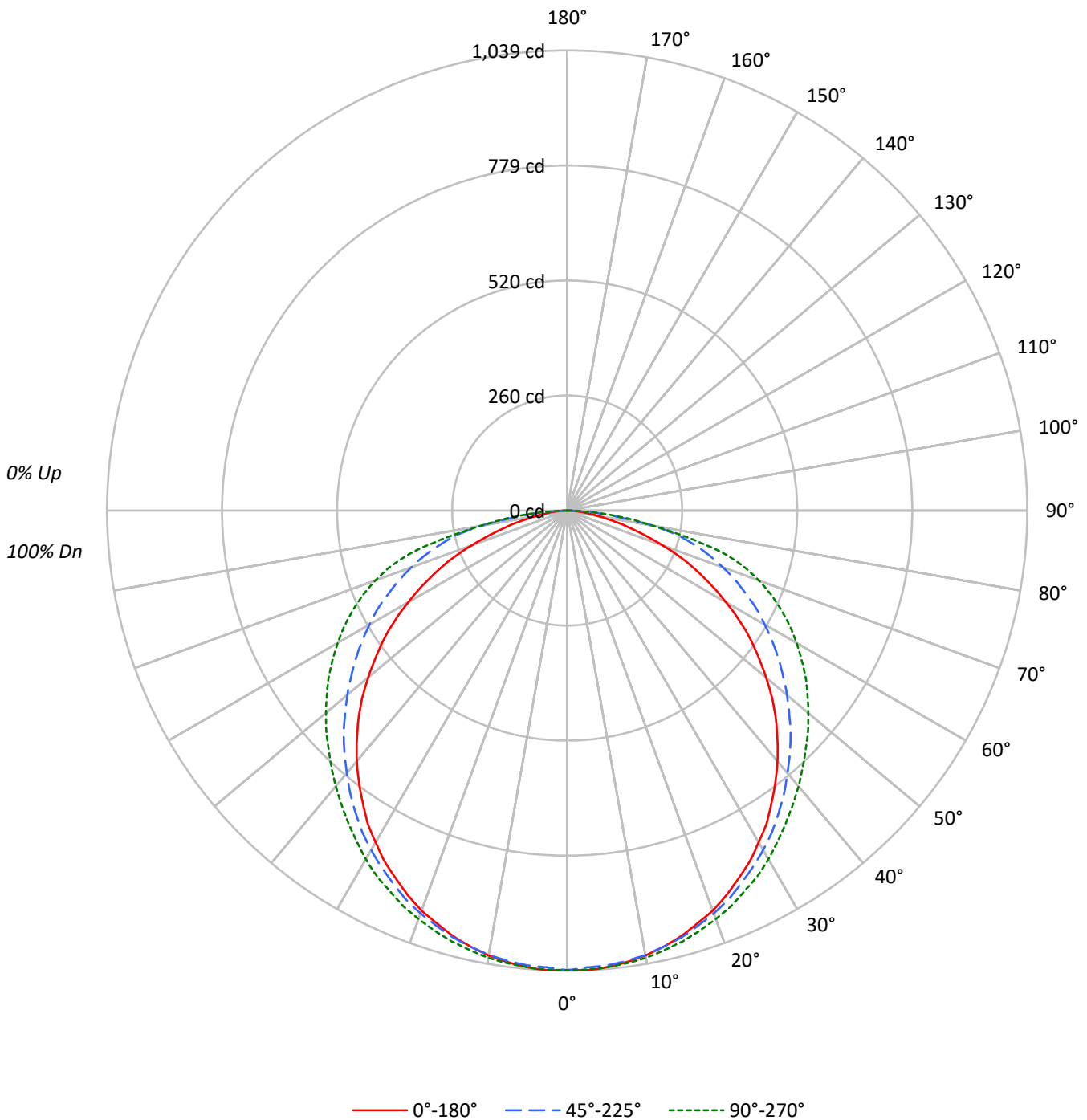
Lumens per Lamp: N/A  
Luminaire Lumens: 3198.2 lumens  
Efficiency: N/A  
Efficacy: 101.2 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	1396	1396	1396
5°	1398	1392	1398
10°	1394	1392	1401
15°	1386	1389	1403
20°	1377	1386	1405
25°	1360	1379	1407
30°	1344	1375	1413
35°	1322	1368	1414
40°	1298	1359	1427
45°	1269	1358	1450
50°	1228	1357	1488
55°	1184	1366	1542
60°	1117	1387	1611
65°	1032	1420	1701
70°	900	1469	1812
75°	731	1545	1873
80°	540	1515	1515
85°	414	1116	1260



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.3	3.1
10°-20°	282.3	8.8
20°-30°	429.7	13.4
30°-40°	521.8	16.3
40°-50°	551.3	17.2
50°-60°	520.2	16.3
60°-70°	432.5	13.5
70°-80°	284.6	8.9
80°-90°	77.6	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°	810.3	25.3
0°-40°	1332.1	41.7
0°-60°	2403.6	75.2
0°-90°	3198.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3198.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1038	1038	1038	1038	1038	
5°	1035	1035	1031	1035	1035	98
15°	995	996	998	1007	1007	281
25°	916	921	929	945	948	422
35°	805	814	833	854	861	504
45°	667	680	714	748	762	513
55°	505	526	582	637	657	450
65°	324	362	446	512	534	320
75°	141	205	297	352	360	151
85°	27	59	72	80	82	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1037.6	1037.6	1037.6	1037.6	1037.6
2.5°	1039.0	1037.6	1032.3	1037.6	1037.6
5°	1035.0	1035.0	1030.9	1035.0	1035.0
7.5°	1028.3	1028.3	1025.6	1030.9	1030.9
10°	1020.2	1020.2	1019.0	1025.6	1025.6
12.5°	1008.2	1009.5	1008.2	1016.2	1016.2
15°	994.8	996.1	997.5	1006.9	1006.9
17.5°	977.5	980.1	982.8	993.4	994.8
20°	961.4	962.6	968.0	980.1	981.4
22.5°	939.9	943.9	950.7	962.6	966.7
25°	915.8	921.1	929.2	945.3	947.9
27.5°	893.1	897.1	907.8	925.2	930.6
30°	864.9	871.6	885.0	902.4	909.2
32.5°	838.1	844.8	860.9	879.6	885.0
35°	804.7	814.1	832.8	854.2	860.9
37.5°	772.6	781.9	804.7	828.8	836.9
40°	739.0	749.8	773.9	802.0	812.7
42.5°	702.9	717.6	744.4	775.2	787.3
45°	666.8	680.2	713.6	748.4	761.8
47.5°	628.0	644.1	680.2	721.7	737.8
50°	586.5	606.6	648.1	693.6	711.0
52.5°	545.0	567.7	614.5	665.4	684.2
55°	504.7	526.2	582.4	637.3	657.4
57.5°	460.6	487.4	549.0	607.8	628.0
60°	415.0	444.5	515.5	577.0	598.5
62.5°	369.5	403.0	483.3	545.0	567.7
65°	324.0	361.5	445.9	511.5	534.3
67.5°	279.8	321.3	411.0	476.7	499.4
70°	228.9	281.2	373.5	437.8	460.6
72.5°	182.1	242.4	337.4	397.7	417.8
75°	140.6	204.9	297.2	352.1	360.2
77.5°	103.1	167.4	255.7	274.4	275.8
80°	69.7	133.8	195.5	192.8	195.5
82.5°	45.5	100.5	123.1	138.0	139.2
85°	26.8	59.0	72.3	80.4	81.6
87.5°	13.3	20.1	25.4	26.8	29.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)