

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: P474071

Luminaire Tested: **24CZ2-40HE-S-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474071  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-40HE-S-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

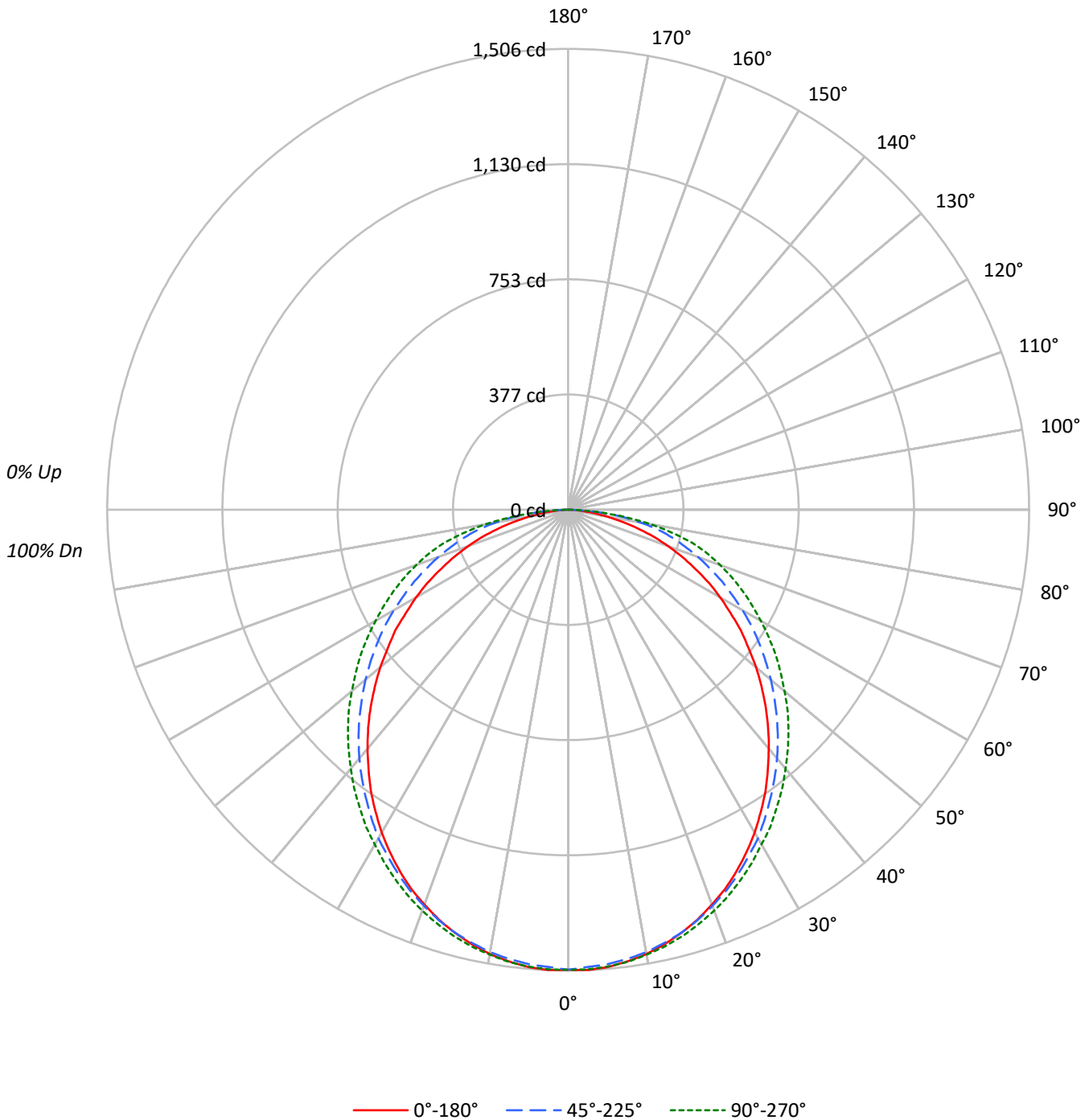
Lumens per Lamp: N/A  
Luminaire Lumens: 4307.2 lumens  
Efficiency: N/A  
Efficacy: 140.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 30.7  
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



TEST NUMBER: P474071  
CATALOG NUMBER: 24CZ2-40HE-S-UNV-L840-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P474071

CATALOG NUMBER: 24CZ2-40HE-S-UNV-L840-CD1-U

**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	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

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

	0°	45°	90°
0°	2023	2023	2023
5°	2026	2013	2024
10°	2014	2006	2017
15°	1994	1993	2009
20°	1966	1972	1997
25°	1934	1950	1981
30°	1893	1926	1962
35°	1845	1892	1951
40°	1791	1864	1940
45°	1737	1835	1936
50°	1678	1810	1931
55°	1618	1787	1942
60°	1544	1771	1955
65°	1462	1764	2003
70°	1364	1773	2074
75°	1214	1824	2184
80°	993	1863	2132
85°	699	1627	1660



TEST NUMBER: P474071

CATALOG NUMBER: 24CZ2-40HE-S-UNV-L840-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.1	3.3
10°-20°	404.8	9.4
20°-30°	606.8	14.1
30°-40°	722.7	16.8
40°-50°	745.2	17.3
50°-60°	680.0	15.8
60°-70°	543.8	12.6
70°-80°	355.2	8.2
80°-90°	106.6	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°	1153.8	26.8
0°-40°	1876.5	43.6
0°-60°	3301.7	76.7
0°-90°	4307.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4307.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1503	1503	1503	1503	1503	
5°	1500	1497	1491	1500	1498	142
15°	1431	1432	1430	1443	1443	403
25°	1302	1305	1314	1333	1334	600
35°	1124	1131	1152	1181	1188	702
45°	913	929	964	1005	1017	704
55°	690	710	762	812	828	614
65°	459	490	554	608	629	455
75°	234	272	351	408	420	248
85°	45	81	105	108	108	57
90°	0	0	0	0	0	



TEST NUMBER: P474071

CATALOG NUMBER: 24CZ2-40HE-S-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1503.4	1503.4	1503.4	1503.4	1503.4
2.5°	1505.5	1503.4	1495.6	1504.8	1503.4
5°	1499.9	1497.0	1490.7	1499.9	1498.5
7.5°	1488.6	1487.1	1480.8	1491.4	1490.0
10°	1474.4	1473.0	1468.0	1478.7	1476.5
12.5°	1454.6	1453.9	1450.4	1463.1	1461.7
15°	1431.2	1432.0	1430.5	1442.6	1442.6
17.5°	1404.4	1403.7	1406.5	1421.3	1419.9
20°	1373.2	1373.9	1377.5	1394.5	1394.5
22.5°	1340.7	1340.0	1347.8	1364.7	1366.2
25°	1302.5	1304.6	1313.8	1332.9	1334.3
27.5°	1261.5	1265.0	1276.3	1298.2	1300.4
30°	1218.3	1222.5	1239.5	1260.0	1262.9
32.5°	1170.9	1180.1	1195.7	1221.8	1228.9
35°	1123.5	1131.3	1151.8	1180.8	1187.9
37.5°	1071.1	1083.9	1107.2	1139.1	1148.3
40°	1019.5	1032.2	1061.2	1094.5	1104.4
42.5°	967.1	980.6	1013.8	1051.3	1061.9
45°	912.7	928.9	964.3	1004.6	1017.4
47.5°	856.8	875.9	914.1	957.9	972.1
50°	801.6	820.7	864.6	909.8	922.6
52.5°	742.2	766.2	812.9	861.7	874.5
55°	689.8	709.6	762.0	812.2	827.8
57.5°	628.2	655.1	711.0	762.0	776.8
60°	573.8	598.5	658.0	709.6	726.6
62.5°	518.6	544.1	603.5	662.2	677.8
65°	459.2	490.3	554.0	608.4	629.0
67.5°	402.6	435.1	500.2	558.2	579.4
70°	346.7	379.9	450.7	510.1	527.1
72.5°	291.5	326.2	399.7	457.7	477.6
75°	233.5	272.4	350.9	407.5	420.2
77.5°	179.0	222.2	301.4	339.6	348.8
80°	128.1	175.5	240.5	268.1	275.2
82.5°	84.2	130.2	179.7	194.6	192.4
85°	45.3	81.4	105.4	107.5	107.5
87.5°	17.7	32.5	33.3	25.5	24.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)