

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: P474635

Luminaire Tested: **24CZ2-45VHE-SQR-UNV-L835-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474635  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45VHE-SQR-UNV-L835-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4327.5 lumens  
Efficiency: N/A  
Efficacy: 141.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

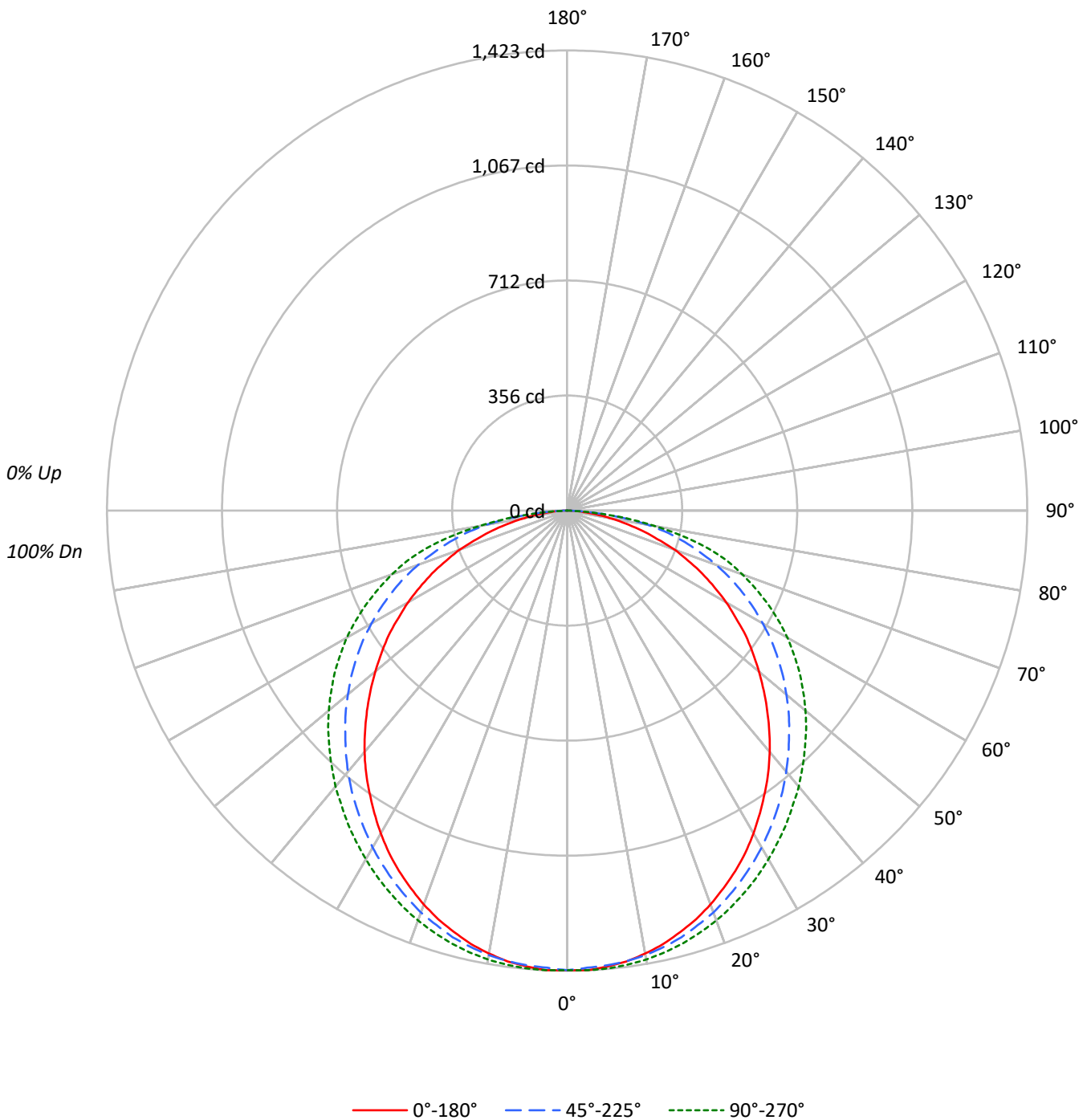
Input Watts (W): 30.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	87	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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	25	35	29	24	23

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

	0°	45°	90°
0°	3825	3825	3825
5°	3825	3814	3840
10°	3801	3814	3852
15°	3760	3806	3858
20°	3712	3788	3863
25°	3652	3761	3863
30°	3581	3738	3869
35°	3500	3716	3884
40°	3424	3704	3915
45°	3331	3694	3957
50°	3242	3705	4029
55°	3166	3730	4119
60°	3059	3758	4235
65°	2936	3803	4362
70°	2785	3857	4537
75°	2494	3910	4687
80°	2100	3921	4254
85°	1559	2967	2797



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.7	3.1
10°-20°	386.0	8.9
20°-30°	584.4	13.5
30°-40°	707.0	16.3
40°-50°	746.2	17.2
50°-60°	703.7	16.3
60°-70°	580.2	13.4
70°-80°	380.6	8.8
80°-90°	104.6	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°	1105.2	25.5
0°-40°	1812.1	41.9
0°-60°	3262.1	75.4
0°-90°	4327.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4327.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1416	1416	1412	1421	1421	134
15°	1350	1357	1366	1382	1385	381
25°	1230	1245	1267	1293	1301	566
35°	1065	1093	1131	1170	1182	667
45°	875	915	971	1022	1040	675
55°	675	722	795	854	878	601
65°	461	516	597	661	685	455
75°	240	301	376	436	451	253
85°	50	87	96	93	91	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1422.8	1421.4	1415.2	1423.5	1422.8
5°	1415.9	1415.9	1411.8	1421.4	1421.4
7.5°	1406.2	1406.9	1405.5	1416.6	1416.6
10°	1391.0	1393.8	1395.9	1408.3	1409.7
12.5°	1373.0	1377.9	1382.0	1397.2	1398.6
15°	1349.5	1357.1	1366.1	1382.0	1384.8
17.5°	1325.3	1334.3	1344.0	1364.8	1368.2
20°	1296.3	1306.7	1322.6	1343.3	1348.9
22.5°	1263.8	1278.3	1294.9	1319.8	1326.7
25°	1229.9	1245.1	1266.6	1292.9	1301.1
27.5°	1193.3	1211.3	1235.5	1265.9	1274.9
30°	1152.5	1173.2	1203.0	1235.5	1245.1
32.5°	1109.6	1133.8	1167.0	1203.0	1214.0
35°	1065.4	1093.0	1131.1	1169.8	1182.2
37.5°	1021.8	1049.5	1094.4	1135.2	1147.0
40°	974.8	1005.2	1054.3	1097.9	1114.5
42.5°	925.0	961.0	1012.8	1061.2	1077.1
45°	875.3	914.7	970.7	1022.5	1039.8
47.5°	824.8	868.4	929.9	982.4	1002.5
50°	774.3	820.6	884.9	941.6	962.4
52.5°	723.2	771.6	841.4	901.5	920.2
55°	674.8	722.5	795.1	854.5	878.0
57.5°	618.8	672.7	749.4	809.6	832.4
60°	568.3	620.8	698.3	761.9	786.8
62.5°	513.7	567.6	649.2	712.8	737.0
65°	461.1	516.4	597.3	660.9	685.1
67.5°	404.4	462.5	545.5	607.0	630.5
70°	354.0	408.6	490.2	553.1	576.6
72.5°	292.4	354.7	432.8	495.0	520.6
75°	239.9	301.4	376.1	435.6	450.8
77.5°	184.6	246.1	320.1	358.8	369.2
80°	135.5	193.6	253.0	273.8	274.5
82.5°	91.3	142.4	176.3	186.7	185.3
85°	50.5	87.1	96.1	93.3	90.6
87.5°	20.7	29.0	23.5	16.6	13.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)