

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: P474572

Luminaire Tested: **24CZ2-45HE-SQR-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474572  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45HE-SQR-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SQUARE LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4320.0 lumens  
Efficiency: N/A  
Efficacy: 122.4 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

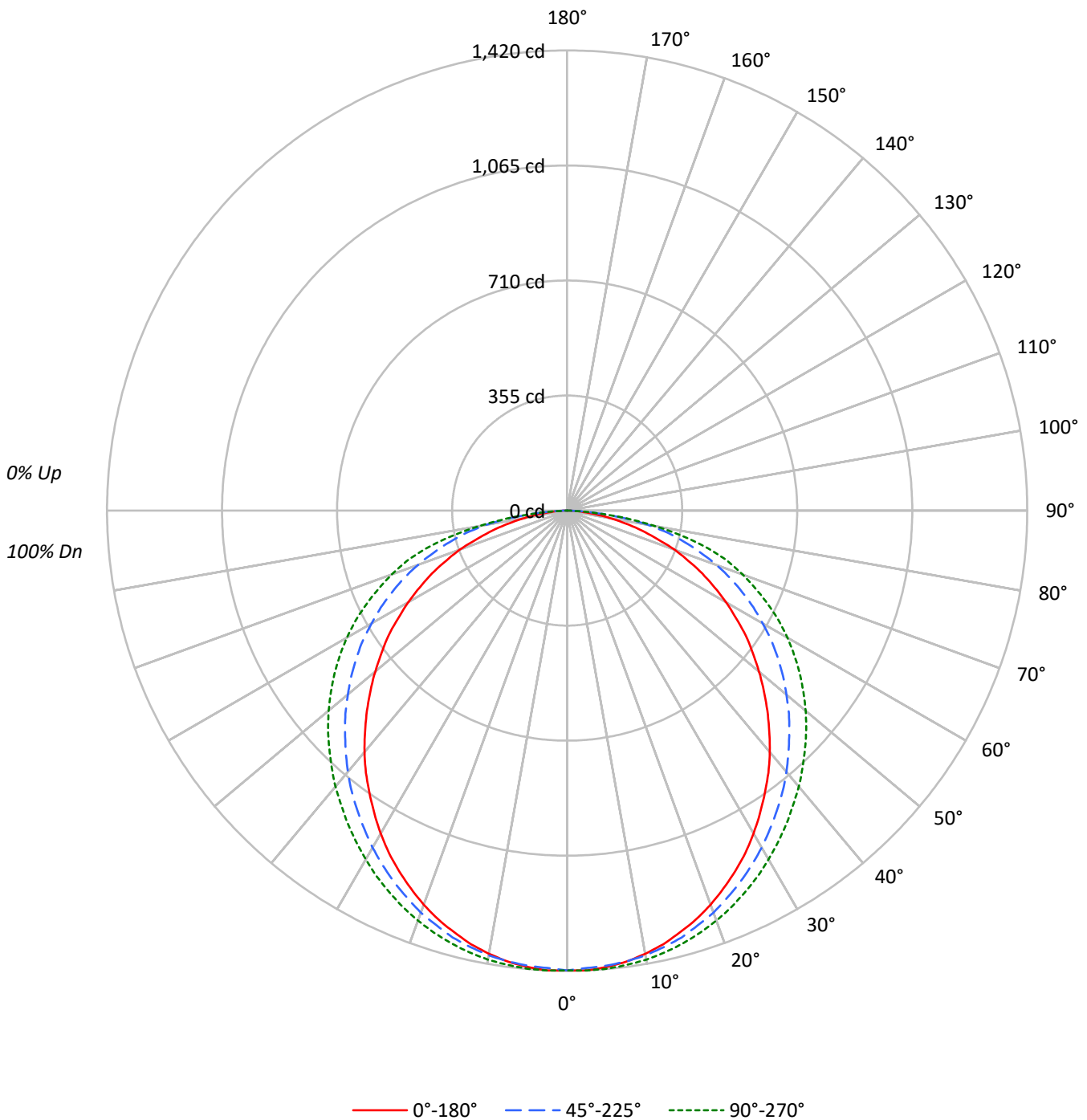
Input Watts (W): 35.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82					82			
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68					68			
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56					56			
4	81	69	59	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48					48			
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36					36			
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31					31			
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28					28			
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25					25			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23					23			

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

	0°	45°	90°
0°	3818	3818	3818
5°	3818	3807	3833
10°	3794	3807	3845
15°	3753	3799	3851
20°	3706	3781	3856
25°	3646	3754	3857
30°	3575	3732	3862
35°	3494	3709	3877
40°	3418	3697	3908
45°	3325	3688	3950
50°	3236	3698	4022
55°	3160	3724	4112
60°	3053	3752	4227
65°	2931	3797	4355
70°	2781	3850	4529
75°	2490	3903	4679
80°	2097	3914	4246
85°	1556	2961	2791



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.5	3.1
10°-20°	385.4	8.9
20°-30°	583.4	13.5
30°-40°	705.7	16.3
40°-50°	744.9	17.2
50°-60°	702.5	16.3
60°-70°	579.2	13.4
70°-80°	379.9	8.8
80°-90°	104.5	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°	1103.2	25.5
0°-40°	1809.0	41.9
0°-60°	3256.4	75.4
0°-90°	4320.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4320.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1419	1419	1419	1419	1419	
5°	1414	1414	1409	1419	1419	134
15°	1347	1355	1364	1380	1382	380
25°	1228	1243	1264	1291	1299	565
35°	1064	1091	1129	1168	1180	666
45°	874	913	969	1021	1038	674
55°	674	721	794	853	876	600
65°	460	516	596	660	684	455
75°	240	301	375	435	450	253
85°	50	87	96	93	90	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1419.0	1419.0	1419.0	1419.0	1419.0
2.5°	1420.4	1419.0	1412.8	1421.0	1420.4
5°	1413.5	1413.5	1409.3	1419.0	1419.0
7.5°	1403.8	1404.5	1403.1	1414.1	1414.1
10°	1388.6	1391.4	1393.4	1405.9	1407.2
12.5°	1370.7	1375.5	1379.6	1394.8	1396.2
15°	1347.2	1354.8	1363.8	1379.6	1382.4
17.5°	1323.0	1332.0	1341.7	1362.4	1365.8
20°	1294.1	1304.4	1320.3	1341.0	1346.5
22.5°	1261.6	1276.1	1292.7	1317.5	1324.4
25°	1227.8	1243.0	1264.4	1290.6	1298.9
27.5°	1191.2	1209.2	1233.3	1263.7	1272.7
30°	1150.5	1171.2	1200.9	1233.3	1243.0
32.5°	1107.7	1131.9	1165.0	1200.9	1211.9
35°	1063.5	1091.1	1129.1	1167.8	1180.2
37.5°	1020.1	1047.7	1092.5	1133.2	1145.0
40°	973.1	1003.5	1052.5	1096.0	1112.5
42.5°	923.4	959.3	1011.1	1059.4	1075.3
45°	873.7	913.1	969.0	1020.8	1038.0
47.5°	823.4	866.8	928.3	980.7	1000.7
50°	773.0	819.2	883.4	940.0	960.7
52.5°	721.9	770.2	839.9	900.0	918.6
55°	673.6	721.2	793.7	853.0	876.5
57.5°	617.7	671.5	748.1	808.2	831.0
60°	567.3	619.8	697.1	760.6	785.4
62.5°	512.8	566.6	648.1	711.6	735.7
65°	460.3	515.6	596.3	659.8	684.0
67.5°	403.7	461.7	544.5	606.0	629.4
70°	353.4	407.9	489.3	552.1	575.6
72.5°	291.9	354.1	432.0	494.2	519.7
75°	239.5	300.9	375.4	434.8	450.0
77.5°	184.3	245.7	319.5	358.2	368.5
80°	135.3	193.2	252.6	273.3	274.0
82.5°	91.1	142.2	176.0	186.3	185.0
85°	50.4	87.0	95.9	93.2	90.4
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)