

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: P474385

Luminaire Tested: **24CZ2-45VHE-HRP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474385
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-45VHE-HRP-UNV-L830-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP
INSERT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3560.9 lumens
Efficiency: N/A
Efficacy: 116.0 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

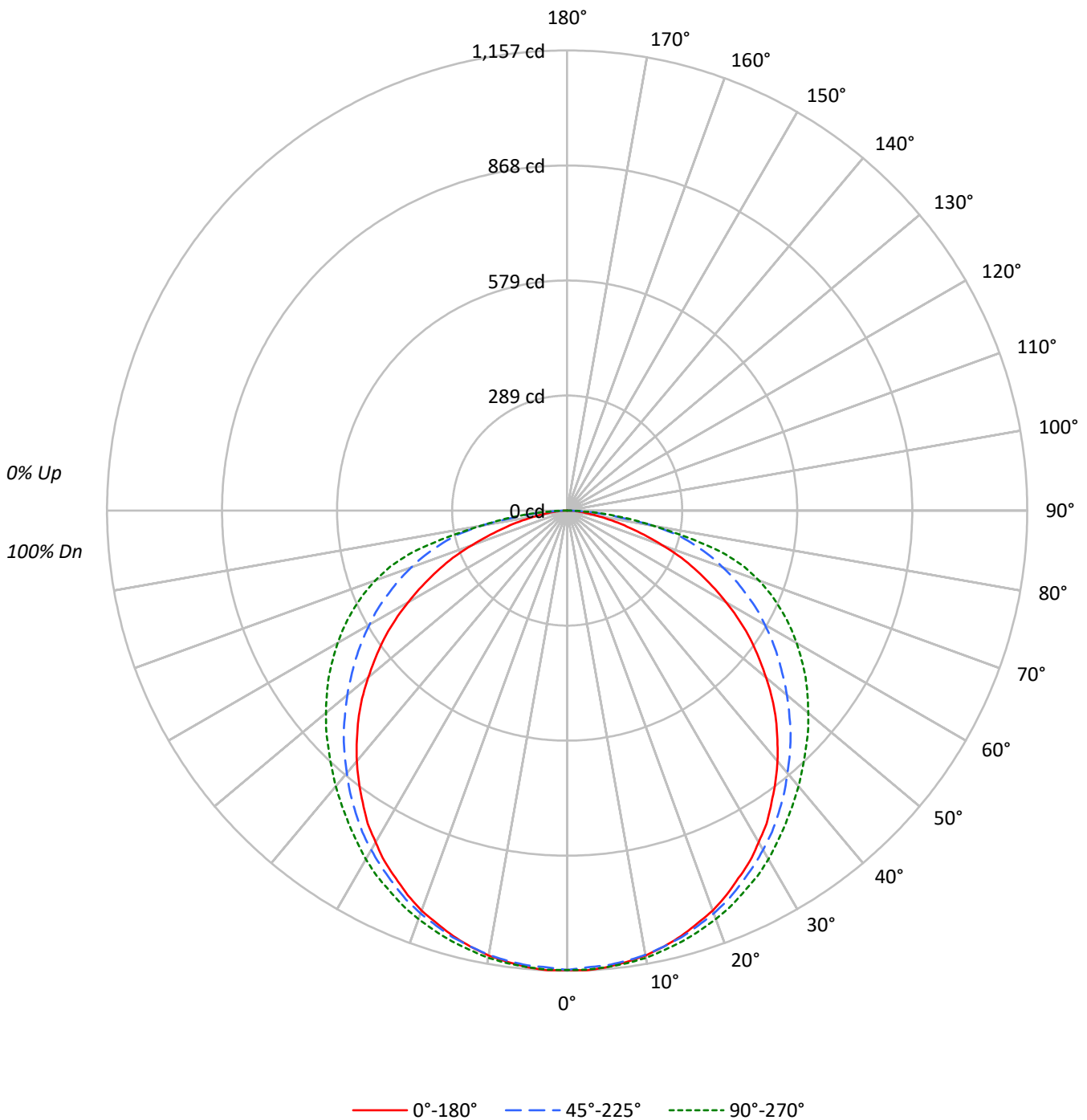
Input Watts (W): 30.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1554	1554	1554
5°	1556	1550	1556
10°	1552	1550	1560
15°	1543	1547	1562
20°	1533	1543	1565
25°	1514	1536	1567
30°	1496	1531	1573
35°	1472	1523	1575
40°	1445	1513	1589
45°	1413	1512	1614
50°	1367	1510	1657
55°	1318	1521	1717
60°	1244	1544	1793
65°	1149	1581	1894
70°	1003	1636	2018
75°	814	1720	2085
80°	601	1687	1687
85°	460	1243	1403



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.4	3.1
10°-20°	314.3	8.8
20°-30°	478.5	13.4
30°-40°	581.0	16.3
40°-50°	613.8	17.2
50°-60°	579.2	16.3
60°-70°	481.6	13.5
70°-80°	316.8	8.9
80°-90°	86.3	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°	902.2	25.3
0°-40°	1483.2	41.7
0°-60°	2676.2	75.2
0°-90°	3560.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3560.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1155	1155	1155	1155	1155	
5°	1152	1152	1148	1152	1152	109
15°	1108	1109	1111	1121	1121	312
25°	1020	1026	1035	1052	1055	470
35°	896	906	927	951	959	561
45°	742	757	795	833	848	572
55°	562	586	648	710	732	501
65°	361	403	496	570	595	357
75°	156	228	331	392	401	169
85°	30	66	80	90	91	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1155.3	1155.3	1155.3	1155.3	1155.3
2.5°	1156.9	1155.3	1149.4	1155.3	1155.3
5°	1152.4	1152.4	1147.8	1152.4	1152.4
7.5°	1144.9	1144.9	1141.9	1147.8	1147.8
10°	1135.9	1135.9	1134.5	1141.9	1141.9
12.5°	1122.6	1124.0	1122.6	1131.5	1131.5
15°	1107.6	1109.1	1110.7	1121.1	1121.1
17.5°	1088.3	1091.2	1094.3	1106.1	1107.6
20°	1070.4	1071.8	1077.8	1091.2	1092.8
22.5°	1046.6	1051.0	1058.5	1071.8	1076.4
25°	1019.6	1025.6	1034.6	1052.5	1055.4
27.5°	994.4	998.8	1010.7	1030.2	1036.1
30°	963.0	970.5	985.3	1004.8	1012.3
32.5°	933.2	940.7	958.6	979.4	985.3
35°	896.0	906.4	927.2	951.1	958.6
37.5°	860.2	870.6	896.0	922.8	931.8
40°	822.9	834.8	861.7	892.9	904.9
42.5°	782.6	799.0	828.8	863.1	876.6
45°	742.4	757.4	794.6	833.3	848.3
47.5°	699.2	717.1	757.4	803.6	821.5
50°	653.0	675.4	721.6	772.2	791.6
52.5°	606.8	632.1	684.2	740.8	761.8
55°	562.0	585.9	648.4	709.6	732.0
57.5°	512.9	542.7	611.3	676.7	699.2
60°	462.1	495.0	573.9	642.5	666.3
62.5°	411.4	448.8	538.1	606.8	632.1
65°	360.8	402.6	496.5	569.5	594.9
67.5°	311.5	357.7	457.6	530.8	556.0
70°	254.9	313.0	415.9	487.5	512.9
72.5°	202.7	269.9	375.6	442.8	465.1
75°	156.5	228.1	330.9	392.0	401.0
77.5°	114.8	186.4	284.7	305.6	307.1
80°	77.6	149.0	217.7	214.7	217.7
82.5°	50.6	111.8	137.1	153.6	155.0
85°	29.8	65.6	80.5	89.5	90.9
87.5°	14.8	22.3	28.3	29.8	32.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)