

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: P474456

Luminaire Tested: **24CZ2-160VHE-HRP-UNV-L835-CD1-U**

Issue Date: 01/28/2021

Test Information

Test Method: LM-79-08
Report Number: P474456
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/28/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ2-160VHE-HRP-UNV-L835-CD1-U
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS W/ HRP
INSERT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13041.3 lumens
Efficiency: N/A
Efficacy: 110.1 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

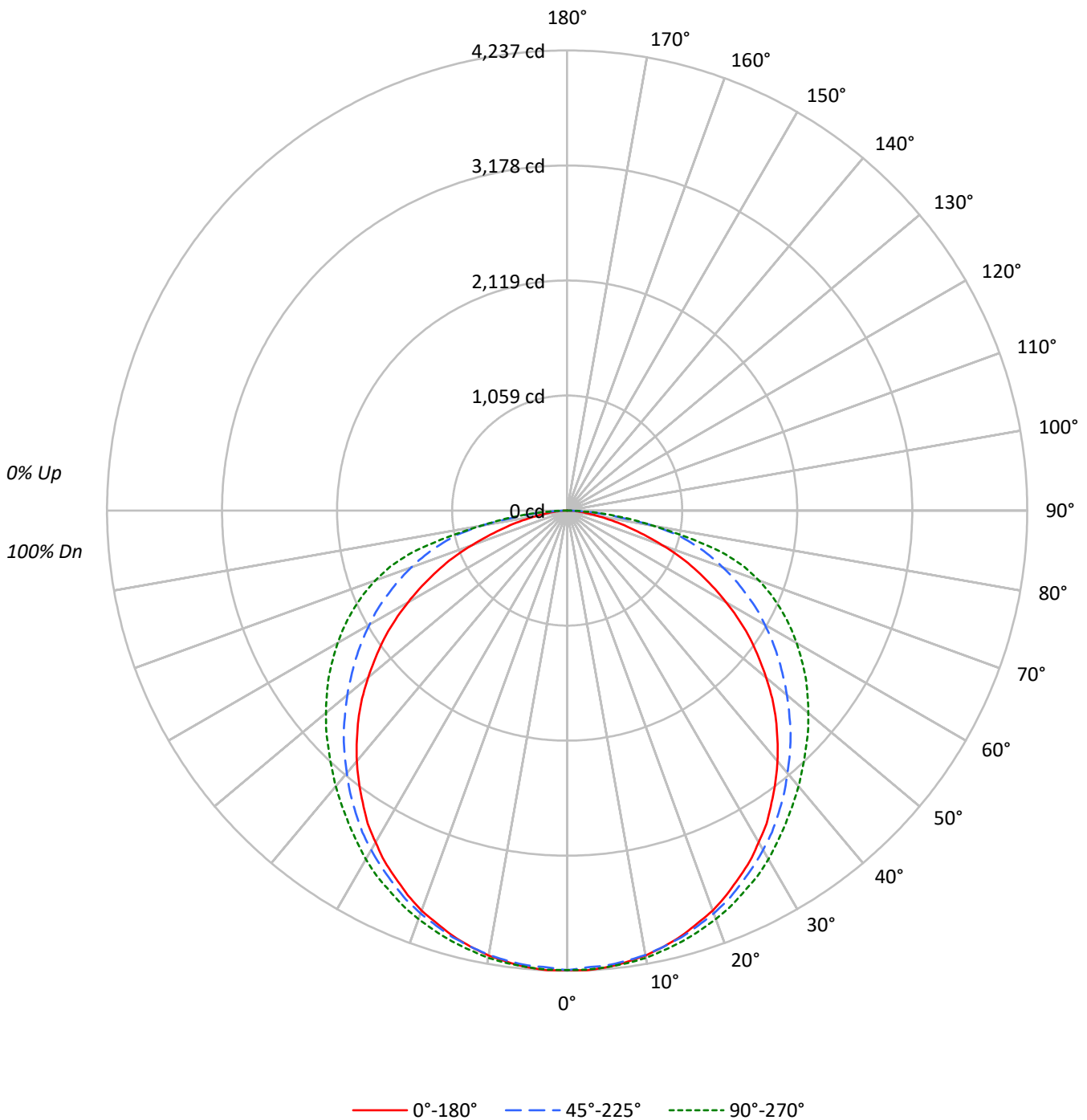
Input Watts (W): 118.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	5693	5693	5693
5°	5700	5678	5700
10°	5684	5677	5714
15°	5650	5666	5719
20°	5613	5652	5730
25°	5544	5625	5738
30°	5480	5607	5760
35°	5390	5578	5766
40°	5293	5543	5821
45°	5173	5537	5911
50°	5006	5532	6069
55°	4828	5571	6288
60°	4554	5656	6567
65°	4207	5789	6936
70°	3672	5991	7389
75°	2980	6301	7635
80°	2201	6179	6179
85°	1687	4550	5138



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	400.8	3.1
10°-20°	1151.0	8.8
20°-30°	1752.3	13.4
30°-40°	2127.7	16.3
40°-50°	2247.9	17.2
50°-60°	2121.2	16.3
60°-70°	1763.7	13.5
70°-80°	1160.3	8.9
80°-90°	316.3	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°	3304.2	25.3
0°-40°	5431.9	41.7
0°-60°	9801.0	75.2
0°-90°	13041.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13041.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4231	4231	4231	4231	4231	
5°	4221	4221	4204	4221	4221	401
15°	4056	4062	4068	4106	4106	1144
25°	3734	3756	3789	3855	3865	1723
35°	3281	3320	3396	3483	3511	2054
45°	2719	2774	2910	3052	3107	2094
55°	2058	2146	2375	2599	2681	1833
65°	1321	1474	1818	2086	2179	1306
75°	573	836	1212	1436	1469	618
85°	109	240	295	328	333	134
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4231.2	4231.2	4231.2	4231.2	4231.2
2.5°	4236.8	4231.2	4209.4	4231.2	4231.2
5°	4220.6	4220.6	4203.8	4220.6	4220.6
7.5°	4193.1	4193.1	4181.9	4203.8	4203.8
10°	4160.0	4160.0	4155.0	4181.9	4181.9
12.5°	4111.3	4116.3	4111.3	4143.8	4143.8
15°	4056.4	4062.0	4067.6	4105.7	4105.7
17.5°	3985.8	3996.4	4007.6	4050.8	4056.4
20°	3920.2	3925.3	3947.1	3996.4	4002.0
22.5°	3832.8	3849.1	3876.5	3925.3	3942.1
25°	3734.2	3756.0	3789.1	3854.7	3865.3
27.5°	3641.7	3658.0	3701.7	3772.8	3794.7
30°	3526.9	3554.3	3608.7	3679.8	3707.3
32.5°	3417.6	3445.0	3510.6	3586.8	3608.7
35°	3281.4	3319.5	3395.7	3483.1	3510.6
37.5°	3150.3	3188.4	3281.4	3379.5	3412.5
40°	3013.6	3057.3	3155.9	3270.2	3313.9
42.5°	2866.2	2926.2	3035.4	3160.9	3210.3
45°	2718.8	2773.7	2909.9	3051.7	3106.6
47.5°	2560.8	2626.4	2773.7	2943.0	3008.5
50°	2391.6	2473.4	2642.6	2828.1	2899.3
52.5°	2222.4	2314.8	2505.9	2713.2	2790.0
55°	2058.2	2145.6	2374.8	2598.9	2680.7
57.5°	1878.3	1987.6	2238.6	2478.4	2560.8
60°	1692.3	1812.7	2101.9	2352.9	2440.3
62.5°	1506.8	1643.5	1970.8	2222.4	2314.8
65°	1321.3	1474.3	1818.3	2085.6	2178.6
67.5°	1140.9	1310.1	1676.0	1943.9	2036.3
70°	933.5	1146.5	1523.0	1785.3	1878.3
72.5°	742.5	988.5	1375.7	1621.7	1703.5
75°	573.2	835.5	1212.0	1435.6	1468.7
77.5°	420.3	682.5	1042.8	1119.0	1124.6
80°	284.1	545.8	797.4	786.2	797.4
82.5°	185.5	409.6	502.1	562.6	567.6
85°	109.3	240.4	294.7	327.8	332.8
87.5°	54.4	81.8	103.7	109.3	119.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)