

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: P295019

Luminaire Tested: **24CZ2-35HE-HRP-UNV-L930-CD1-U**

Issue Date: 12/2/2019

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P295019  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-35HE-HRP-UNV-L930-CD1-U  
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (168) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2296.4 lumens  
Efficiency: N/A  
Efficacy: 85.4 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

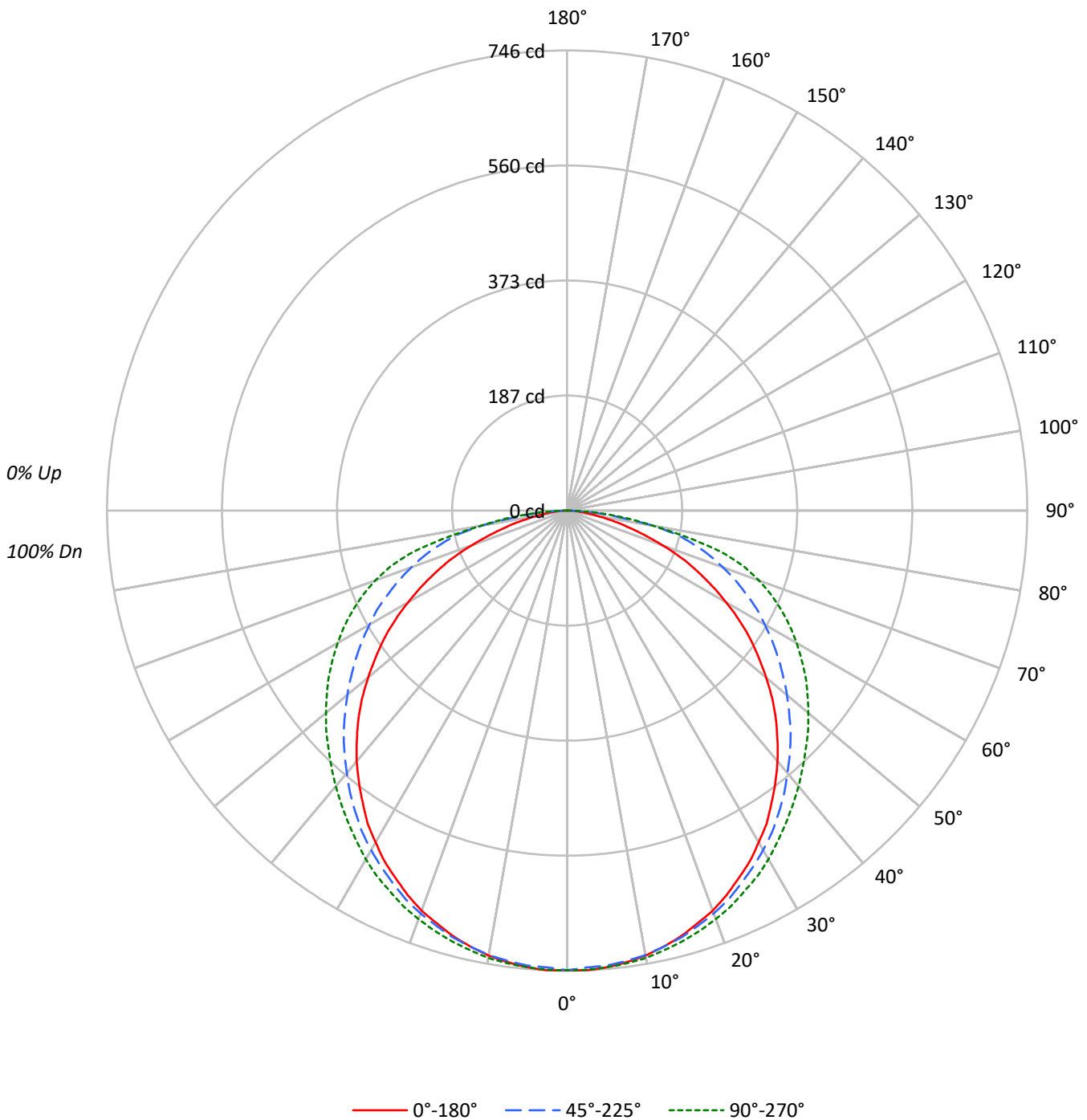
Input Watts (W): 26.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1003	1003	1003
5°	1004	1000	1004
10°	1001	1000	1006
15°	995	998	1007
20°	988	995	1009
25°	976	991	1010
30°	965	987	1014
35°	949	982	1015
40°	932	976	1025
45°	911	975	1041
50°	881	974	1069
55°	850	981	1107
60°	802	996	1156
65°	741	1019	1221
70°	647	1055	1301
75°	525	1109	1344
80°	387	1088	1088
85°	296	801	905



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.6	3.1
10°-20°	202.7	8.8
20°-30°	308.6	13.4
30°-40°	374.7	16.3
40°-50°	395.8	17.2
50°-60°	373.5	16.3
60°-70°	310.5	13.5
70°-80°	204.3	8.9
80°-90°	55.7	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°	581.8	25.3
0°-40°	956.5	41.7
0°-60°	1725.8	75.2
0°-90°	2296.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2296.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	745	745	745	745	745	
5°	743	743	740	743	743	71
15°	714	715	716	723	723	201
25°	658	661	667	679	681	303
35°	578	584	598	613	618	362
45°	479	488	512	537	547	369
55°	362	378	418	458	472	323
65°	233	260	320	367	384	230
75°	101	147	213	253	259	109
85°	19	42	52	58	59	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	745.1	745.1	745.1	745.1	745.1
2.5°	746.0	745.1	741.2	745.1	745.1
5°	743.1	743.1	740.3	743.1	743.1
7.5°	738.3	738.3	736.4	740.3	740.3
10°	732.6	732.6	731.6	736.4	736.4
12.5°	723.9	724.9	723.9	729.7	729.7
15°	714.3	715.3	716.2	722.9	722.9
17.5°	701.8	703.7	705.6	713.3	714.3
20°	690.3	691.2	695.1	703.7	704.7
22.5°	674.9	677.8	682.6	691.2	694.1
25°	657.6	661.4	667.2	678.7	680.6
27.5°	641.2	644.1	651.8	664.3	668.1
30°	621.0	625.8	635.5	648.0	652.8
32.5°	601.8	606.6	618.2	631.6	635.5
35°	577.8	584.5	598.0	613.4	618.2
37.5°	554.7	561.4	577.8	595.1	600.9
40°	530.7	538.4	555.7	575.9	583.5
42.5°	504.7	515.3	534.5	556.6	565.3
45°	478.8	488.4	512.4	537.4	547.0
47.5°	450.9	462.4	488.4	518.2	529.7
50°	421.1	435.5	465.3	498.0	510.5
52.5°	391.3	407.6	441.3	477.8	491.3
55°	362.4	377.8	418.2	457.6	472.0
57.5°	330.7	349.9	394.2	436.5	450.9
60°	298.0	319.2	370.1	414.3	429.7
62.5°	265.3	289.4	347.1	391.3	407.6
65°	232.7	259.6	320.1	367.2	383.6
67.5°	200.9	230.7	295.1	342.2	358.6
70°	164.4	201.9	268.2	314.4	330.7
72.5°	130.7	174.0	242.3	285.5	299.9
75°	100.9	147.1	213.4	252.8	258.6
77.5°	74.0	120.2	183.6	197.1	198.0
80°	50.0	96.1	140.4	138.4	140.4
82.5°	32.7	72.1	88.4	99.0	100.0
85°	19.2	42.3	51.9	57.7	58.6
87.5°	9.6	14.4	18.3	19.2	21.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)