

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: P391280

Luminaire Tested: **24CZ2-35VHE-HRP-UNV-L950-CD1-U**

Issue Date: 2/28/2020

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: P391280  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-35VHE-HRP-UNV-L950-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2713.7 lumens  
Efficiency: N/A  
Efficacy: 119.0 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

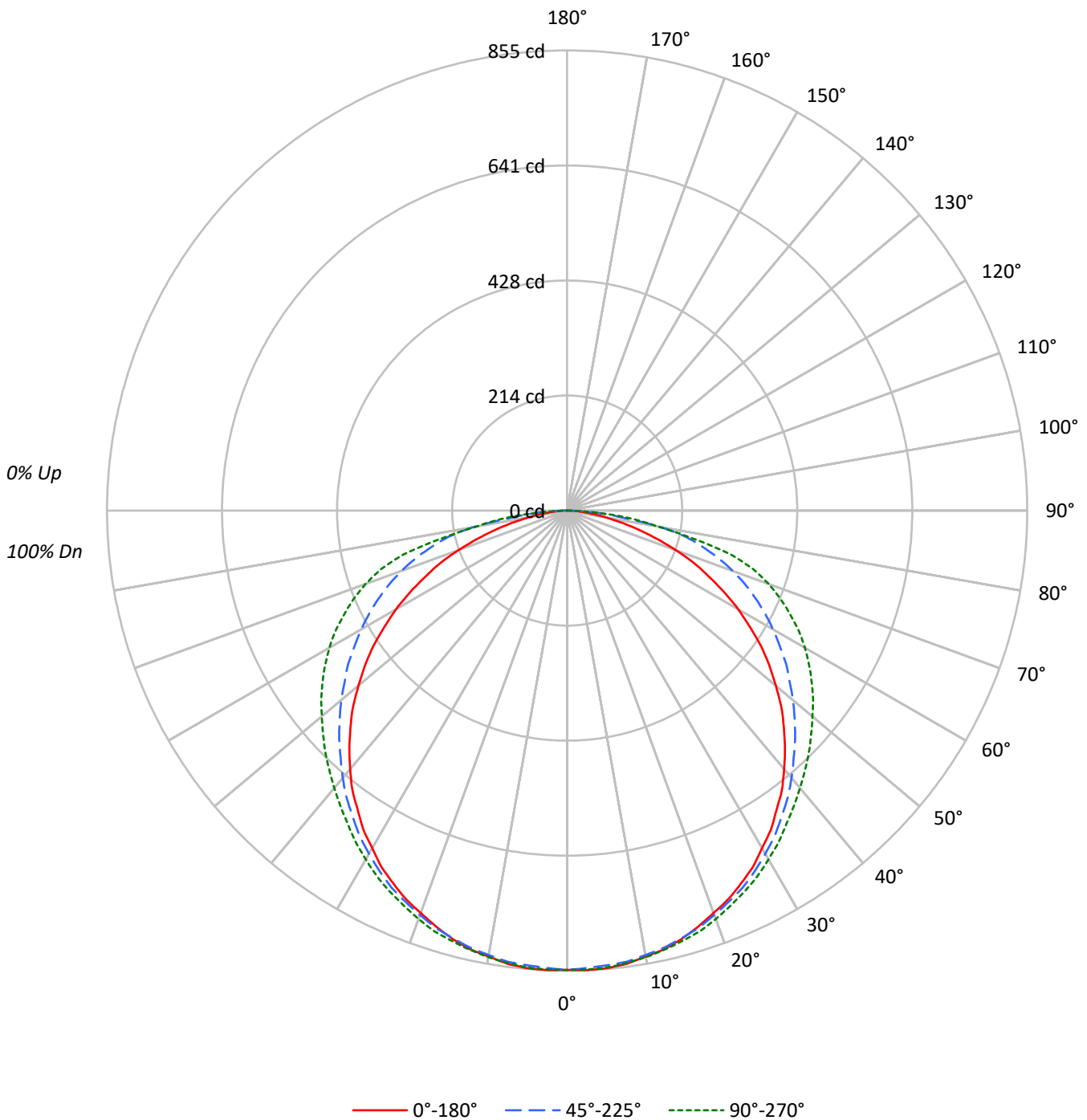
Input Watts (W): 22.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	68	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1148	1148	1148
5°	1153	1145	1151
10°	1149	1146	1151
15°	1148	1146	1153
20°	1139	1145	1156
25°	1135	1147	1159
30°	1125	1144	1163
35°	1114	1141	1167
40°	1102	1140	1182
45°	1083	1140	1209
50°	1059	1147	1245
55°	1033	1165	1301
60°	989	1188	1373
65°	926	1230	1457
70°	842	1287	1567
75°	714	1357	1638
80°	563	1366	1324
85°	415	1039	1164



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.0	3.0
10°-20°	233.0	8.6
20°-30°	356.3	13.1
30°-40°	435.5	16.0
40°-50°	464.2	17.1
50°-60°	443.8	16.4
60°-70°	376.0	13.9
70°-80°	252.7	9.3
80°-90°	71.3	2.6
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°	670.2	24.7
0°-40°	1105.7	40.7
0°-60°	2013.8	74.2
0°-90°	2713.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2713.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	853	853	853	853	853	
5°	853	852	848	852	852	81
15°	824	824	822	829	828	232
25°	764	767	773	779	781	352
35°	678	684	694	708	711	425
45°	569	579	599	625	635	439
55°	440	456	497	536	555	392
65°	291	320	386	438	458	289
75°	137	187	261	306	315	147
85°	27	55	67	73	75	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	853.4	853.4	853.4	853.4	853.4
2.5°	854.7	854.7	850.7	853.4	853.4
5°	853.4	852.0	848.0	852.0	852.0
7.5°	849.3	848.0	845.3	849.3	848.0
10°	841.3	841.3	838.6	842.6	842.6
12.5°	834.5	833.2	831.8	837.2	835.9
15°	823.8	823.8	822.4	829.2	827.8
17.5°	810.3	811.7	813.0	818.4	819.7
20°	795.5	798.2	799.5	807.6	807.6
22.5°	782.0	783.4	786.1	794.2	794.2
25°	764.5	767.2	772.6	779.3	780.7
27.5°	747.0	748.4	755.1	764.5	765.9
30°	724.2	728.2	736.3	747.0	748.4
32.5°	704.0	708.0	717.4	728.2	730.9
35°	678.4	683.8	694.5	708.0	710.7
37.5°	655.5	659.6	673.0	687.8	691.9
40°	627.2	635.3	648.8	666.3	673.0
42.5°	599.0	607.1	623.2	646.1	654.2
45°	569.4	578.8	599.0	624.6	635.3
47.5°	539.8	550.5	573.4	603.0	615.1
50°	506.1	519.6	547.8	581.5	594.9
52.5°	473.8	490.0	520.9	558.6	576.1
55°	440.2	456.3	496.7	535.7	554.6
57.5°	402.5	424.0	468.4	512.8	533.0
60°	367.5	387.7	441.5	490.0	510.1
62.5°	329.8	356.7	414.6	465.7	485.9
65°	290.7	320.4	386.3	437.5	457.6
67.5°	255.7	288.0	358.0	409.2	429.4
70°	214.0	254.4	327.1	378.2	398.4
72.5°	175.0	219.4	294.8	344.6	363.4
75°	137.3	187.1	261.1	305.5	315.0
77.5°	102.3	154.8	226.1	245.0	238.2
80°	72.7	123.8	176.3	166.9	170.9
82.5°	47.1	94.2	109.0	123.8	127.9
85°	26.9	55.2	67.3	72.7	75.4
87.5°	12.1	20.2	26.9	26.9	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)