

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: FAIL-SAFE

Report Number: P313188

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CP250-W2A-U-4500K**

Issue Date: 3/3/2020

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: P313188  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-40-UNV-L83050-HRP-CP250-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB SHEET  
Light Source: (168) 4500K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2828.0 lumens  
Efficiency: N/A  
Efficacy: 82.4 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

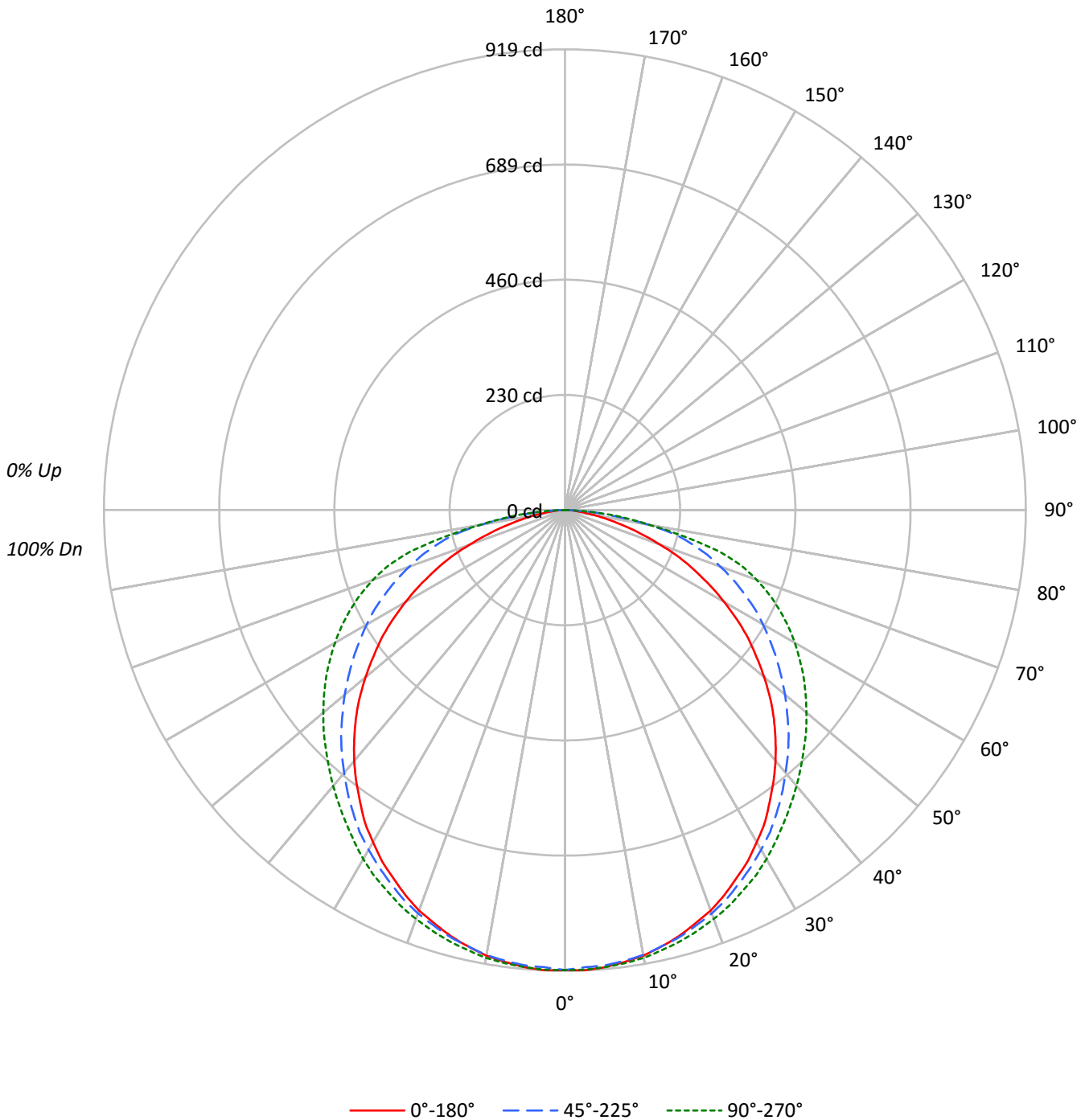
Input Watts (W): 34.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1234	1234	1234
5°	1236	1231	1236
10°	1233	1231	1239
15°	1225	1229	1240
20°	1217	1226	1243
25°	1202	1220	1244
30°	1188	1216	1249
35°	1169	1210	1250
40°	1148	1202	1262
45°	1122	1201	1282
50°	1086	1199	1316
55°	1047	1208	1364
60°	988	1227	1424
65°	912	1255	1504
70°	797	1299	1602
75°	646	1366	1656
80°	477	1340	1340
85°	366	986	1115



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.9	3.1
10°-20°	249.6	8.8
20°-30°	380.0	13.4
30°-40°	461.4	16.3
40°-50°	487.5	17.2
50°-60°	460.0	16.3
60°-70°	382.5	13.5
70°-80°	251.6	8.9
80°-90°	68.6	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°	716.5	25.3
0°-40°	1177.9	41.7
0°-60°	2125.3	75.2
0°-90°	2828.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2828.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	918	918	918	918	918	
5°	915	915	912	915	915	87
15°	880	881	882	890	890	248
25°	810	814	822	836	838	374
35°	712	720	736	755	761	445
45°	590	601	631	662	674	454
55°	446	465	515	564	581	398
65°	286	320	394	452	472	283
75°	124	181	263	311	318	134
85°	24	52	64	71	72	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	917.5	917.5	917.5	917.5	917.5
2.5°	918.7	917.5	912.8	917.5	917.5
5°	915.2	915.2	911.6	915.2	915.2
7.5°	909.3	909.3	906.9	911.6	911.6
10°	902.2	902.2	901.0	906.9	906.9
12.5°	891.5	892.7	891.5	898.6	898.6
15°	879.7	880.8	882.0	890.3	890.3
17.5°	864.3	866.6	869.0	878.5	879.7
20°	850.1	851.2	856.0	866.6	867.8
22.5°	831.1	834.7	840.6	851.2	854.8
25°	809.8	814.5	821.6	835.9	838.2
27.5°	789.7	793.2	802.7	818.1	822.8
30°	764.8	770.7	782.6	798.0	803.9
32.5°	741.1	747.1	761.3	777.8	782.6
35°	711.5	719.8	736.4	755.3	761.3
37.5°	683.1	691.4	711.5	732.9	740.0
40°	653.5	663.0	684.3	709.2	718.6
42.5°	621.6	634.6	658.3	685.5	696.2
45°	589.6	601.4	631.0	661.8	673.7
47.5°	555.3	569.5	601.4	638.1	652.3
50°	518.6	536.3	573.0	613.3	628.7
52.5°	481.9	502.0	543.4	588.4	605.0
55°	446.3	465.3	515.0	563.6	581.3
57.5°	407.3	431.0	485.4	537.5	555.3
60°	367.0	393.1	455.8	510.3	529.2
62.5°	326.8	356.4	427.4	481.9	502.0
65°	286.5	319.7	394.2	452.3	472.4
67.5°	247.4	284.1	363.5	421.5	441.6
70°	202.5	248.6	330.3	387.1	407.3
72.5°	161.0	214.3	298.4	351.6	369.4
75°	124.3	181.1	262.8	311.4	318.5
77.5°	91.2	148.0	226.1	242.7	243.9
80°	61.6	118.4	172.9	170.5	172.9
82.5°	40.3	88.8	108.9	121.9	123.1
85°	23.7	52.1	63.9	71.0	72.2
87.5°	11.8	17.8	22.5	23.7	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)