

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: P313187

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CP250-W2A-U-4000K**

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: P313187  
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-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB SHEET  
Light Source: (168) 4000K 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: 2802.0 lumens  
Efficiency: N/A  
Efficacy: 83.6 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

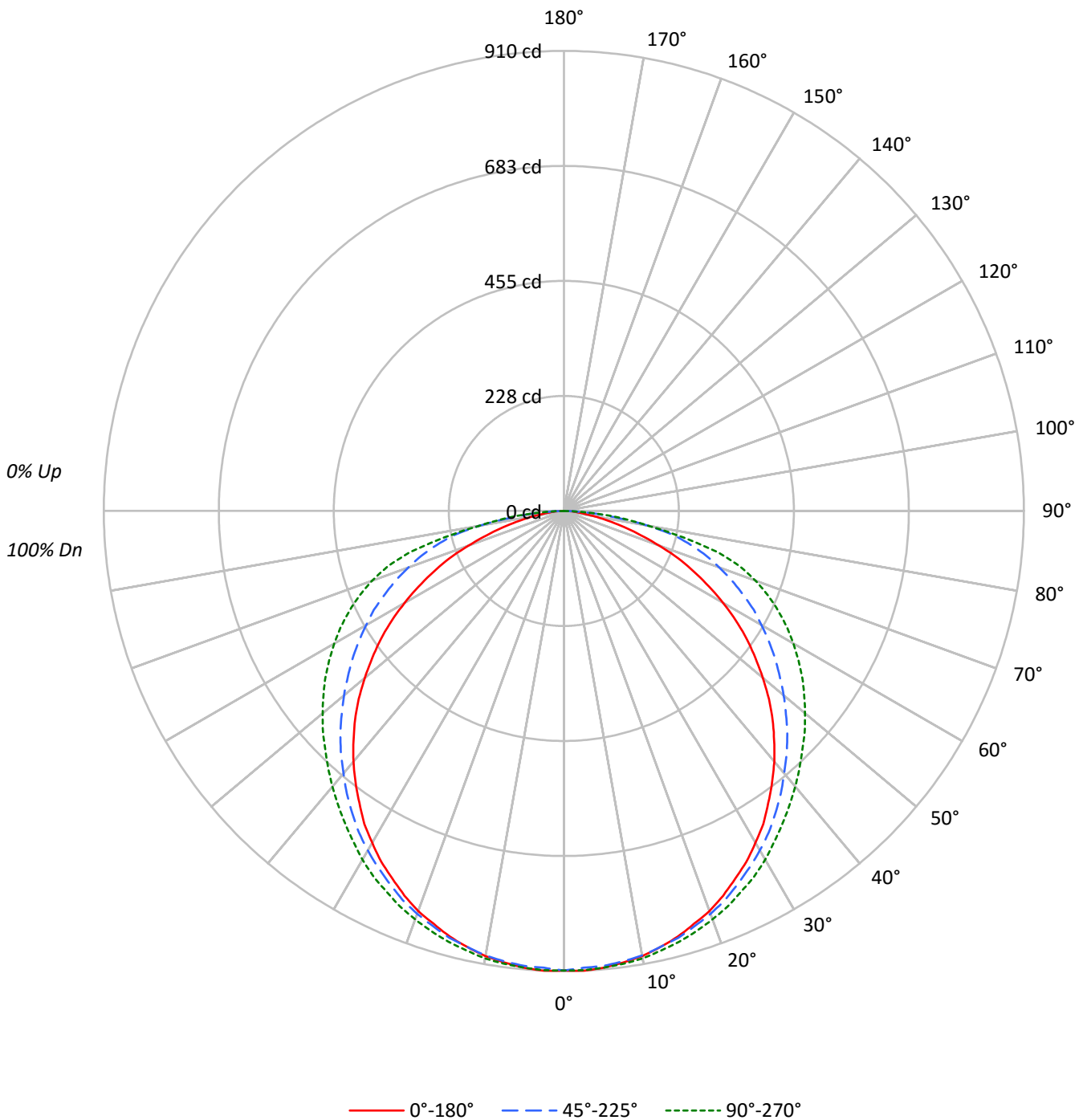
Input Watts (W): 33.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1223	1223	1223
5°	1225	1220	1225
10°	1221	1220	1228
15°	1214	1217	1229
20°	1206	1214	1231
25°	1191	1209	1233
30°	1177	1205	1237
35°	1158	1198	1239
40°	1137	1191	1251
45°	1112	1190	1270
50°	1075	1189	1304
55°	1037	1197	1351
60°	978	1215	1411
65°	904	1244	1490
70°	789	1288	1587
75°	640	1354	1640
80°	473	1327	1327
85°	363	977	1105



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.1	3.1
10°-20°	247.3	8.8
20°-30°	376.5	13.4
30°-40°	457.2	16.3
40°-50°	483.0	17.2
50°-60°	455.7	16.3
60°-70°	378.9	13.5
70°-80°	249.3	8.9
80°-90°	68.0	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°	709.9	25.3
0°-40°	1167.1	41.7
0°-60°	2105.8	75.2
0°-90°	2802.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2802.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	909	909	909	909	909	
5°	907	907	903	907	907	86
15°	872	873	874	882	882	246
25°	802	807	814	828	830	370
35°	705	713	730	748	754	441
45°	584	596	625	656	668	450
55°	442	461	510	558	576	394
65°	284	317	391	448	468	281
75°	123	180	260	308	316	133
85°	24	52	63	70	72	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	909.1	909.1	909.1	909.1	909.1
2.5°	910.3	909.1	904.4	909.1	909.1
5°	906.8	906.8	903.2	906.8	906.8
7.5°	900.9	900.9	898.6	903.2	903.2
10°	893.9	893.9	892.7	898.6	898.6
12.5°	883.3	884.5	883.3	890.3	890.3
15°	871.6	872.7	873.9	882.1	882.1
17.5°	856.3	858.7	861.0	870.4	871.6
20°	842.2	843.4	848.1	858.7	859.8
22.5°	823.5	827.0	832.9	843.4	846.9
25°	802.4	807.1	814.1	828.2	830.5
27.5°	782.4	785.9	795.3	810.6	815.3
30°	757.8	763.7	775.4	790.6	796.5
32.5°	734.3	740.2	754.3	770.7	775.4
35°	705.0	713.2	729.6	748.4	754.3
37.5°	676.8	685.1	705.0	726.1	733.2
40°	647.5	656.9	678.0	702.7	712.0
42.5°	615.8	628.8	652.2	679.2	689.8
45°	584.2	595.9	625.2	655.7	667.5
47.5°	550.2	564.2	595.9	632.3	646.3
50°	513.8	531.4	567.8	607.6	622.9
52.5°	477.4	497.4	538.4	583.0	599.4
55°	442.2	461.0	510.3	558.4	576.0
57.5°	403.5	427.0	480.9	532.6	550.2
60°	363.6	389.5	451.6	505.6	524.4
62.5°	323.8	353.1	423.5	477.4	497.4
65°	283.9	316.7	390.6	448.1	468.0
67.5°	245.2	281.5	360.1	417.6	437.5
70°	200.6	246.3	327.3	383.6	403.5
72.5°	159.5	212.3	295.6	348.4	366.0
75°	123.2	179.5	260.4	308.5	315.5
77.5°	90.3	146.6	224.1	240.5	241.6
80°	61.0	117.3	171.3	168.9	171.3
82.5°	39.9	88.0	107.9	120.8	122.0
85°	23.5	51.6	63.3	70.4	71.6
87.5°	11.7	17.6	22.3	23.5	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)