

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: P313157

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-HRP-CP187-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: P313157  
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: 24FCZ2-40HE-UNV-L83050-HRP-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"  
POLYCARB SHEET  
Light Source: (336) 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**

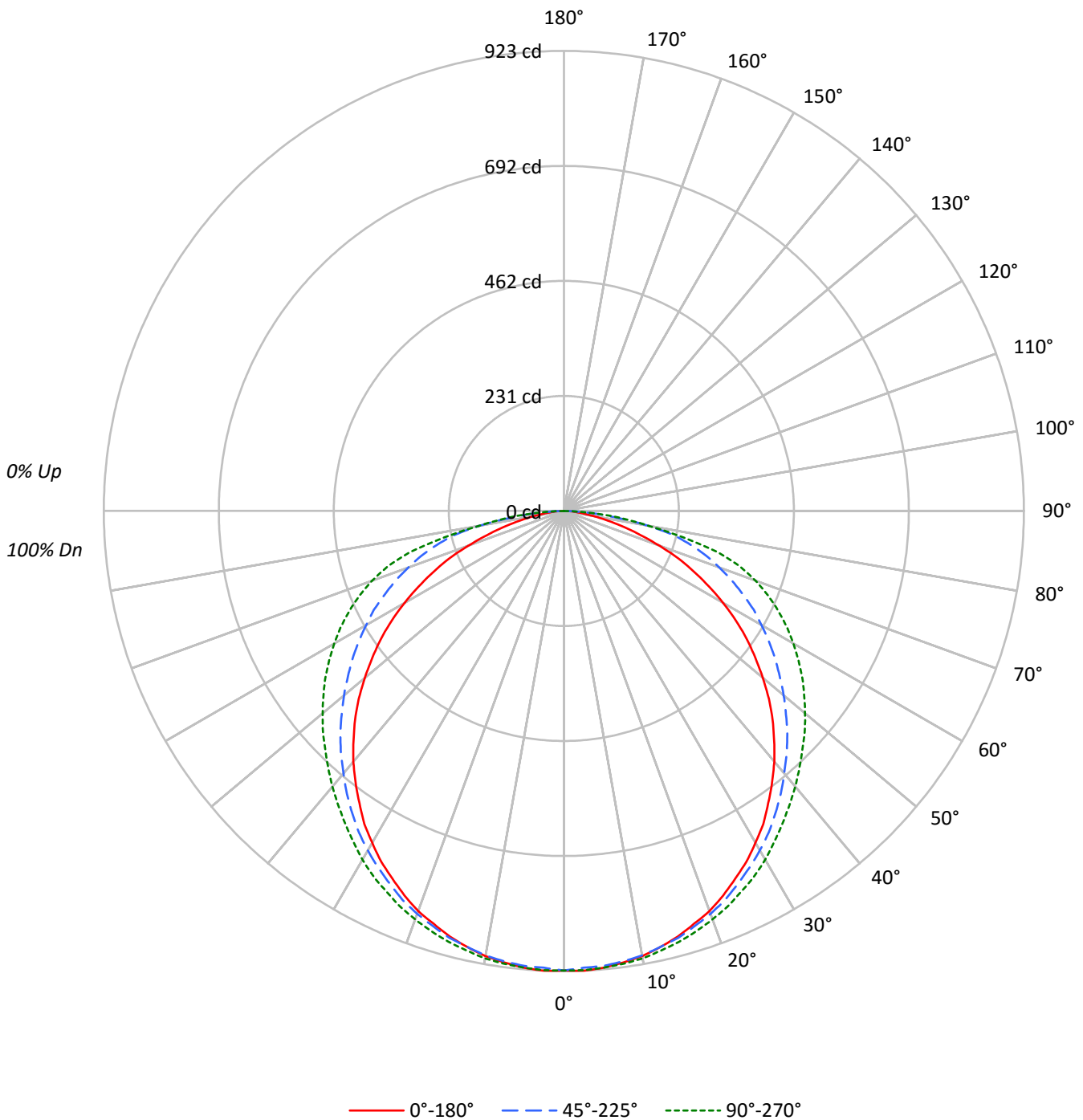
Lumens per Lamp: N/A  
Luminaire Lumens: 2842.0 lumens  
Efficiency: N/A  
Efficacy: 91.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	1241	1241	1241
5°	1242	1237	1242
10°	1239	1237	1245
15°	1231	1235	1246
20°	1223	1232	1249
25°	1208	1226	1251
30°	1194	1222	1255
35°	1175	1216	1257
40°	1154	1208	1268
45°	1127	1207	1288
50°	1091	1205	1322
55°	1052	1214	1370
60°	992	1233	1431
65°	917	1261	1511
70°	801	1306	1610
75°	649	1373	1664
80°	480	1346	1346
85°	367	991	1121



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.3	3.1
10°-20°	250.8	8.8
20°-30°	381.9	13.4
30°-40°	463.7	16.3
40°-50°	489.9	17.2
50°-60°	462.3	16.3
60°-70°	384.3	13.5
70°-80°	252.9	8.9
80°-90°	68.9	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°	720.1	25.3
0°-40°	1183.7	41.7
0°-60°	2135.9	75.2
0°-90°	2842.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2842.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	922	922	922	922	922	
5°	920	920	916	920	920	87
15°	884	885	886	895	895	249
25°	814	819	826	840	842	375
35°	715	723	740	759	765	448
45°	592	604	634	665	677	456
55°	449	468	518	566	584	400
65°	288	321	396	454	475	285
75°	125	182	264	313	320	135
85°	24	52	64	71	73	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	922.1	922.1	922.1	922.1	922.1
2.5°	923.3	922.1	917.3	922.1	922.1
5°	919.7	919.7	916.1	919.7	919.7
7.5°	913.8	913.8	911.4	916.1	916.1
10°	906.6	906.6	905.4	911.4	911.4
12.5°	895.9	897.1	895.9	903.1	903.1
15°	884.0	885.2	886.4	894.7	894.7
17.5°	868.5	870.9	873.3	882.8	884.0
20°	854.3	855.5	860.2	870.9	872.1
22.5°	835.2	838.8	844.8	855.5	859.0
25°	813.8	818.6	825.7	840.0	842.4
27.5°	793.6	797.2	806.7	822.1	826.9
30°	768.6	774.6	786.5	801.9	807.9
32.5°	744.8	750.8	765.0	781.7	786.5
35°	715.1	723.4	740.1	759.1	765.0
37.5°	686.5	694.8	715.1	736.5	743.6
40°	656.8	666.3	687.7	712.7	722.2
42.5°	624.6	637.7	661.5	688.9	699.6
45°	592.5	604.4	634.2	665.1	677.0
47.5°	558.0	572.3	604.4	641.3	655.6
50°	521.1	539.0	575.9	616.3	631.8
52.5°	484.2	504.5	546.1	591.3	608.0
55°	448.6	467.6	517.6	566.3	584.2
57.5°	409.3	433.1	487.8	540.2	558.0
60°	368.8	395.0	458.1	512.8	531.8
62.5°	328.4	358.1	429.5	484.2	504.5
65°	287.9	321.2	396.2	454.5	474.7
67.5°	248.7	285.6	365.3	423.6	443.8
70°	203.5	249.9	332.0	389.1	409.3
72.5°	161.8	215.4	299.8	353.4	371.2
75°	124.9	182.0	264.1	312.9	320.1
77.5°	91.6	148.7	227.3	243.9	245.1
80°	61.9	119.0	173.7	171.3	173.7
82.5°	40.5	89.2	109.5	122.5	123.7
85°	23.8	52.4	64.2	71.4	72.6
87.5°	11.9	17.8	22.6	23.8	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)