

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: P313280

Luminaire Tested: **24FCZ2-50-UNV-L83050-HRP-CP187-W2A-U-3000K**

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: P313280  
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: 24FCZ2-50-UNV-L83050-HRP-CP187-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"  
POLYCARB SHEET  
Light Source: (168) 3000K 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**

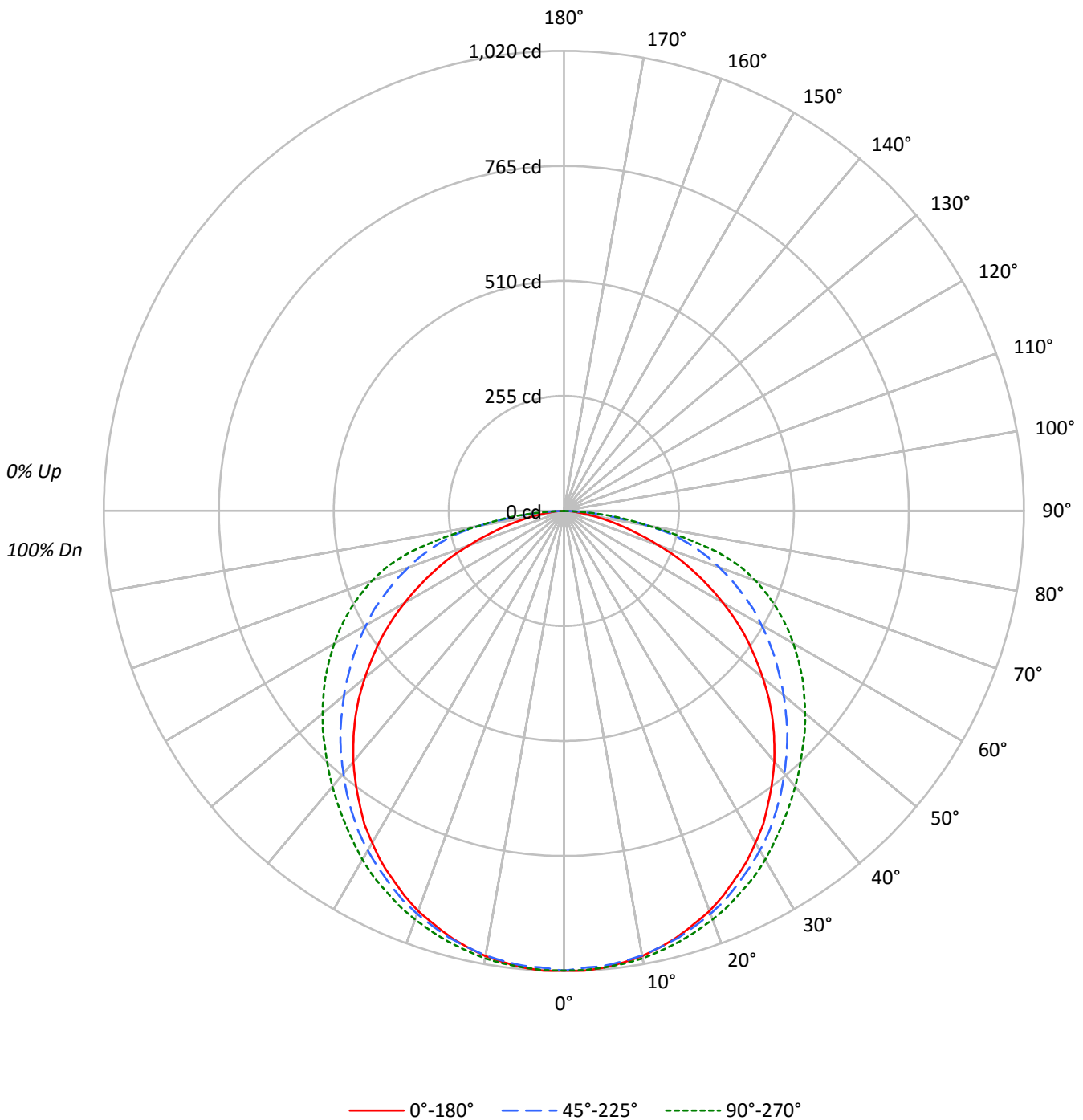
Lumens per Lamp: N/A  
Luminaire Lumens: 3141.0 lumens  
Efficiency: N/A  
Efficacy: 73.7 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 42.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

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

	0°	45°	90°
0°	1371	1371	1371
5°	1373	1368	1373
10°	1369	1367	1376
15°	1361	1365	1377
20°	1352	1361	1380
25°	1335	1355	1382
30°	1320	1350	1387
35°	1298	1343	1389
40°	1275	1335	1402
45°	1246	1334	1424
50°	1206	1332	1461
55°	1163	1342	1514
60°	1097	1362	1582
65°	1013	1394	1670
70°	885	1443	1779
75°	718	1517	1839
80°	530	1488	1488
85°	406	1096	1238



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.5	3.1
10°-20°	277.2	8.8
20°-30°	422.0	13.4
30°-40°	512.5	16.3
40°-50°	541.4	17.2
50°-60°	510.9	16.3
60°-70°	424.8	13.5
70°-80°	279.5	8.9
80°-90°	76.2	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°	795.8	25.3
0°-40°	1308.3	41.7
0°-60°	2360.6	75.2
0°-90°	3141.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3141.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1016	1016	1012	1016	1016	97
15°	977	978	980	989	989	276
25°	899	905	913	928	931	415
35°	790	800	818	839	846	495
45°	655	668	701	735	748	504
55°	496	517	572	626	646	442
65°	318	355	438	502	525	315
75°	138	201	292	346	354	149
85°	26	58	71	79	80	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1019.1	1019.1	1019.1	1019.1	1019.1
2.5°	1020.4	1019.1	1013.8	1019.1	1019.1
5°	1016.5	1016.5	1012.5	1016.5	1016.5
7.5°	1009.9	1009.9	1007.3	1012.5	1012.5
10°	1002.0	1002.0	1000.7	1007.3	1007.3
12.5°	990.2	991.5	990.2	998.1	998.1
15°	977.0	978.3	979.7	988.9	988.9
17.5°	959.9	962.6	965.2	975.7	977.0
20°	944.1	945.5	950.7	962.6	963.9
22.5°	923.1	927.1	933.6	945.5	949.4
25°	899.4	904.7	912.6	928.4	931.0
27.5°	877.1	881.0	891.5	908.6	913.9
30°	849.5	856.0	869.2	886.3	892.9
32.5°	823.2	829.7	845.5	863.9	869.2
35°	790.3	799.5	817.9	838.9	845.5
37.5°	758.7	767.9	790.3	814.0	821.9
40°	725.9	736.4	760.1	787.7	798.2
42.5°	690.4	704.8	731.1	761.4	773.2
45°	654.9	668.0	700.9	735.1	748.2
47.5°	616.7	632.5	668.0	708.8	724.5
50°	576.0	595.7	636.4	681.2	698.2
52.5°	535.2	557.5	603.6	653.5	671.9
55°	495.7	516.8	572.0	625.9	645.6
57.5°	452.3	478.6	539.1	597.0	616.7
60°	407.6	436.6	506.3	566.8	587.8
62.5°	362.9	395.8	474.7	535.2	557.5
65°	318.2	355.0	437.9	502.3	524.7
67.5°	274.8	315.6	403.7	468.1	490.5
70°	224.9	276.1	366.9	430.0	452.3
72.5°	178.8	238.0	331.4	390.5	410.3
75°	138.1	201.2	291.9	345.8	353.7
77.5°	101.3	164.4	251.2	269.6	270.9
80°	68.4	131.5	192.0	189.4	192.0
82.5°	44.7	98.6	121.0	135.4	136.8
85°	26.3	57.9	71.0	78.9	80.2
87.5°	13.1	19.7	25.0	26.3	28.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)