

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: P313857

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-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: P313857  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-35HE-UNV-L83050-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED 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**

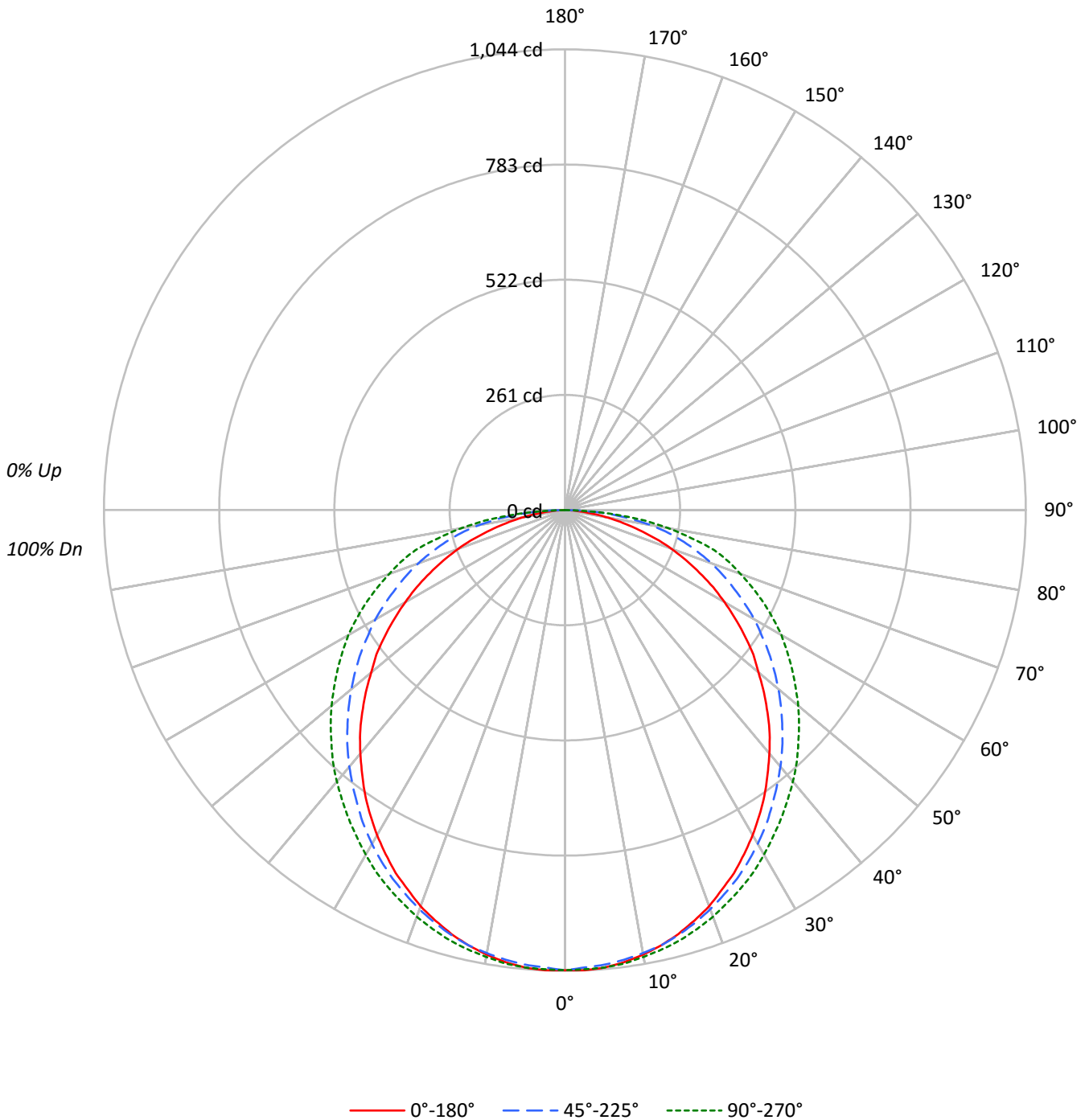
Lumens per Lamp: N/A  
Luminaire Lumens: 3161.0 lumens  
Efficiency: N/A  
Efficacy: 118.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 26.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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	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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

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

	0°	45°	90°
0°	1403	1403	1403
5°	1405	1397	1405
10°	1397	1393	1404
15°	1385	1388	1405
20°	1368	1379	1404
25°	1347	1369	1403
30°	1321	1357	1401
35°	1295	1344	1402
40°	1265	1334	1411
45°	1235	1325	1423
50°	1199	1322	1445
55°	1169	1323	1474
60°	1123	1335	1524
65°	1072	1349	1579
70°	1015	1390	1667
75°	905	1450	1821
80°	772	1536	1861
85°	551	1522	1782



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.7	3.1
10°-20°	282.1	8.9
20°-30°	426.1	13.5
30°-40°	513.5	16.2
40°-50°	539.1	17.1
50°-60°	504.4	16.0
60°-70°	416.5	13.2
70°-80°	283.8	9.0
80°-90°	96.8	3.1
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°	806.8	25.5
0°-40°	1320.4	41.8
0°-60°	2363.9	74.8
0°-90°	3161.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3161.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1042	1042	1042	1042	1042	
5°	1040	1039	1034	1040	1040	99
15°	994	995	996	1007	1009	280
25°	907	911	922	940	945	417
35°	789	797	818	845	854	493
45°	649	663	696	734	748	501
55°	498	518	564	610	628	445
65°	337	365	424	477	496	334
75°	174	214	279	331	350	186
85°	36	70	99	111	115	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1042.5	1042.5	1042.5	1042.5	1042.5
2.5°	1043.5	1042.5	1037.2	1042.5	1041.4
5°	1040.4	1039.3	1034.1	1040.4	1040.4
7.5°	1033.0	1033.0	1027.8	1035.1	1036.2
10°	1022.5	1022.5	1019.4	1027.8	1027.8
12.5°	1010.0	1010.0	1010.0	1018.3	1019.4
15°	994.2	995.3	996.3	1006.8	1008.9
17.5°	975.3	977.4	980.6	993.2	995.3
20°	955.4	957.5	962.8	977.4	980.6
22.5°	930.3	935.5	942.8	959.6	962.8
25°	907.2	911.4	921.9	939.7	944.9
27.5°	878.9	885.2	898.8	917.7	925.0
30°	850.5	856.8	873.6	895.6	901.9
32.5°	820.1	829.6	847.4	870.5	877.8
35°	788.7	797.1	818.0	845.3	853.7
37.5°	754.1	765.6	788.7	818.0	828.5
40°	720.5	733.1	759.3	790.8	803.4
42.5°	686.9	699.5	728.9	764.5	777.1
45°	649.2	662.8	696.4	734.1	747.8
47.5°	611.4	628.2	664.9	704.8	719.5
50°	572.6	591.5	631.4	673.3	690.1
52.5°	538.0	555.8	597.8	642.9	658.6
55°	498.2	518.1	564.2	610.4	628.2
57.5°	457.3	479.3	528.6	578.9	596.7
60°	417.4	441.5	496.1	546.4	566.3
62.5°	378.6	402.7	459.4	511.8	531.7
65°	336.7	365.0	423.7	477.2	496.1
67.5°	296.8	327.2	389.1	441.5	460.4
70°	258.0	287.4	353.4	404.8	423.7
72.5°	216.0	249.6	315.7	369.2	389.1
75°	174.1	213.9	279.0	331.4	350.3
77.5°	135.3	176.2	241.2	284.2	293.7
80°	99.6	141.6	198.2	228.6	240.2
82.5°	64.0	105.9	151.0	173.0	182.5
85°	35.7	70.3	98.6	111.2	115.4
87.5°	14.7	30.4	39.9	45.1	45.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)