

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: P311238

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-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: P311238
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30-UNV-L82765-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 2574.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

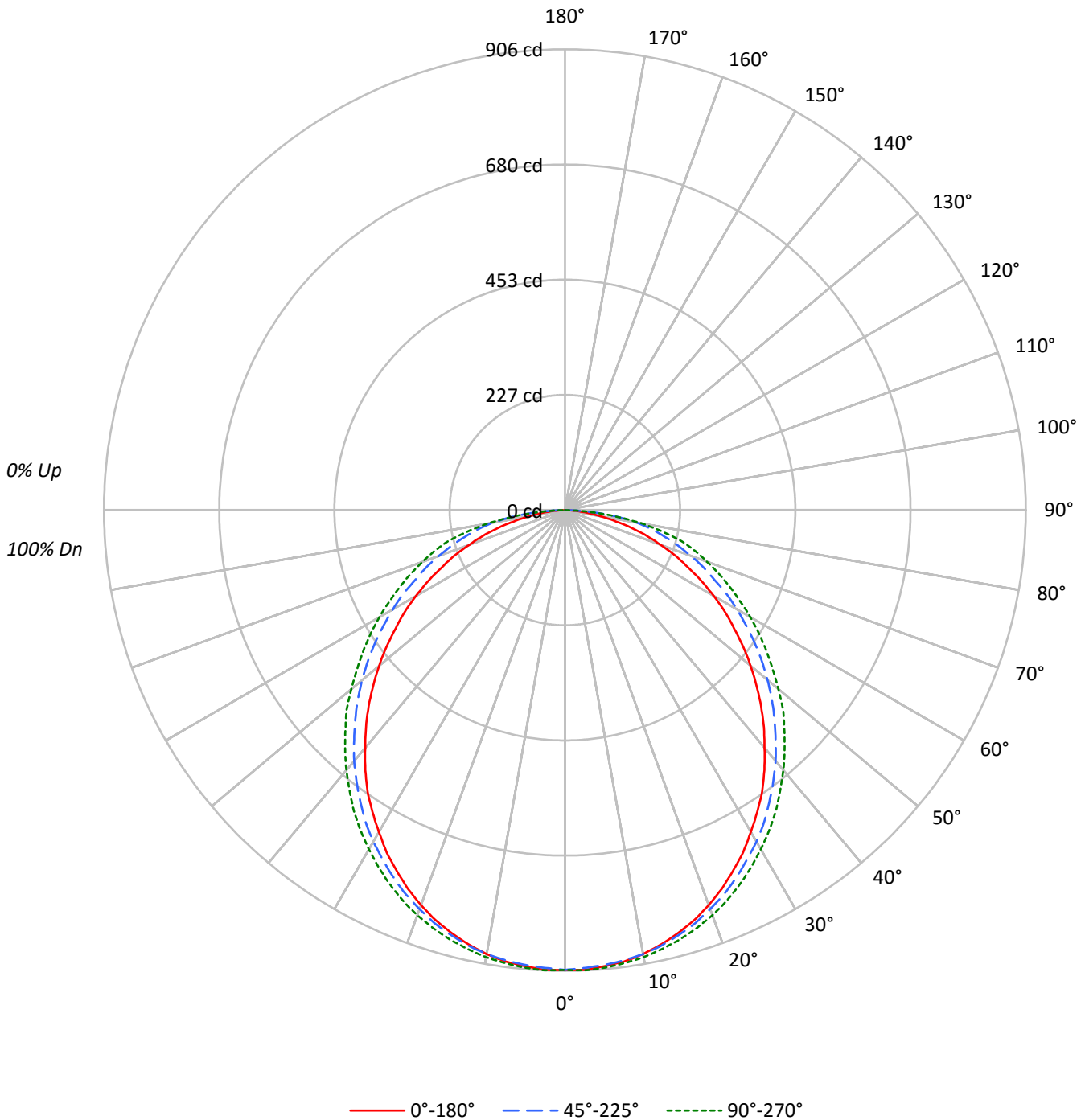
Input Watts (W): 23.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1217	1217	1217
5°	1216	1212	1220
10°	1211	1211	1220
15°	1199	1205	1217
20°	1184	1195	1214
25°	1162	1184	1207
30°	1136	1170	1197
35°	1111	1151	1187
40°	1073	1132	1173
45°	1038	1109	1161
50°	998	1088	1147
55°	953	1068	1135
60°	909	1052	1133
65°	851	1033	1140
70°	788	1039	1171
75°	705	1058	1237
80°	570	1121	1210
85°	429	985	959



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.6	3.3
10°-20°	244.6	9.5
20°-30°	367.7	14.3
30°-40°	438.0	17.0
40°-50°	448.3	17.4
50°-60°	403.6	15.7
60°-70°	316.9	12.3
70°-80°	205.7	8.0
80°-90°	63.6	2.5
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°	697.9	27.1
0°-40°	1135.9	44.1
0°-60°	1987.8	77.2
0°-90°	2574.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2574.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	904	904	904	904	904	
5°	900	902	898	903	903	86
15°	861	863	865	872	874	243
25°	782	789	797	810	813	360
35°	676	684	701	718	723	422
45°	545	558	583	605	610	420
55°	406	424	455	479	484	364
65°	267	288	325	352	358	266
75°	136	162	204	231	238	144
85°	28	52	64	62	62	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	904.3	904.3	904.3	904.3	904.3
2.5°	905.1	905.1	901.0	905.1	905.9
5°	900.2	901.8	897.7	902.6	903.4
7.5°	895.3	895.3	892.8	897.7	898.5
10°	886.3	887.1	886.3	892.0	892.8
12.5°	874.8	876.5	877.3	883.0	883.8
15°	860.9	863.4	865.0	872.4	874.0
17.5°	845.4	847.8	851.9	860.1	861.7
20°	826.6	829.9	834.8	845.4	847.8
22.5°	806.2	809.4	817.6	827.4	831.5
25°	782.4	789.0	797.2	810.2	812.7
27.5°	758.7	764.5	775.1	789.0	792.3
30°	730.9	739.9	753.0	766.9	770.2
32.5°	704.0	712.9	728.5	743.2	747.3
35°	676.2	684.3	700.7	717.9	722.8
37.5°	644.3	654.9	672.9	690.1	695.0
40°	610.7	623.8	644.3	662.3	668.0
42.5°	578.9	592.8	613.2	632.8	639.4
45°	545.3	558.4	582.9	605.0	609.9
47.5°	511.0	525.7	551.9	574.0	582.1
50°	476.7	492.2	520.0	542.9	547.8
52.5°	442.3	458.7	488.1	512.6	515.1
55°	406.3	424.3	455.4	479.1	484.0
57.5°	373.6	389.2	422.7	447.2	452.9
60°	337.7	354.8	390.8	413.7	421.1
62.5°	303.3	321.3	358.9	381.8	388.4
65°	267.4	287.8	324.6	351.6	358.1
67.5°	236.3	255.9	295.2	321.3	327.9
70°	200.3	222.4	264.1	291.1	297.6
72.5°	169.2	192.1	233.8	260.0	269.8
75°	135.7	161.9	203.6	231.4	237.9
77.5°	103.0	133.3	175.8	197.0	197.0
80°	73.6	105.5	144.7	154.5	156.2
82.5°	48.2	79.3	107.1	106.3	106.3
85°	27.8	51.5	63.8	62.1	62.1
87.5°	10.6	21.3	22.9	22.9	22.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)