

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: P310522

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-CP187-W2A-U-5000K**

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: P310522
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: 24FCZ2-30HE-UNV-L82765-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 2704.0 lumens
Efficiency: N/A
Efficacy: 125.2 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

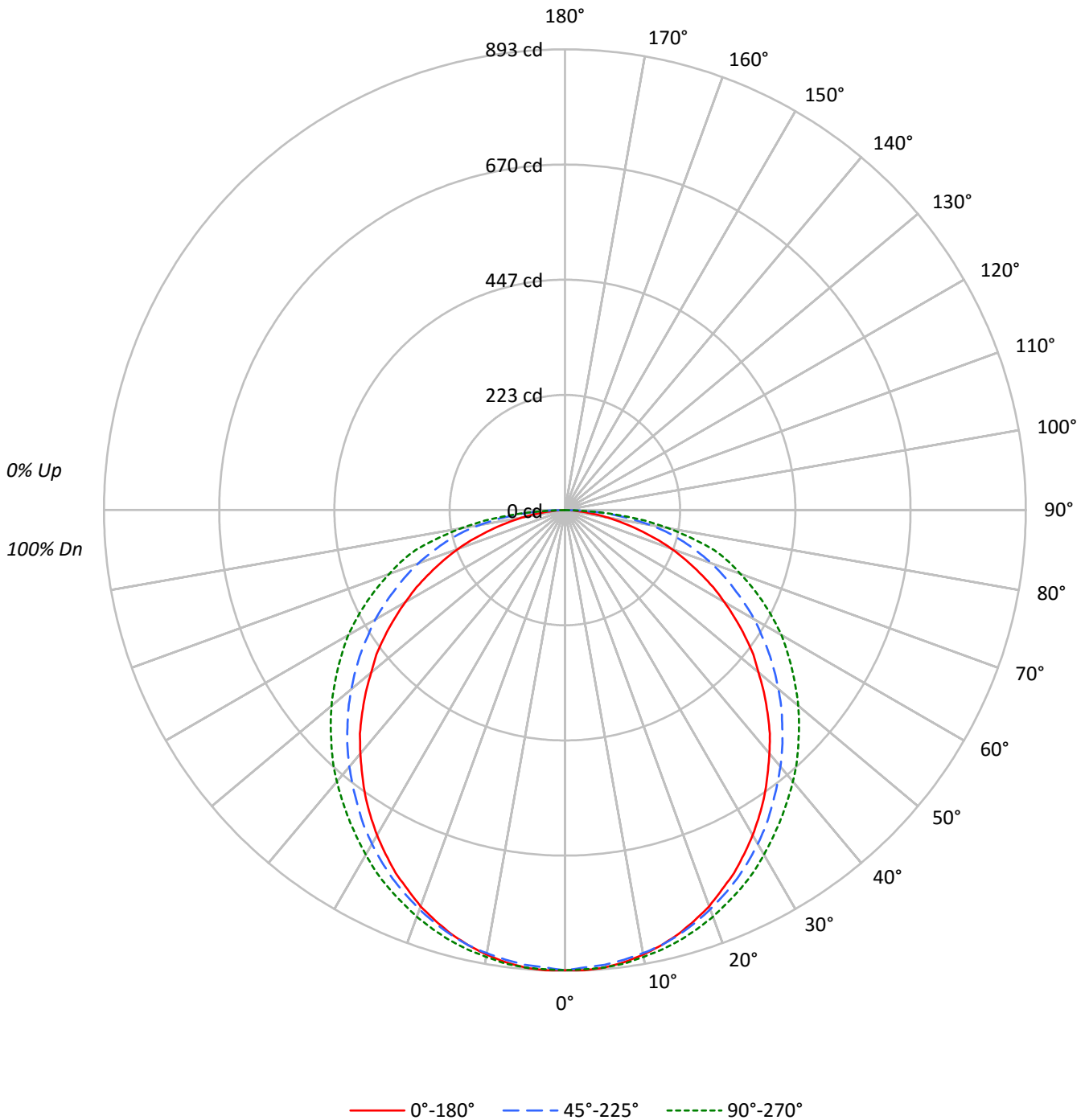
Input Watts (W): 21.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1200	1200	1200
5°	1202	1195	1202
10°	1195	1191	1201
15°	1185	1187	1202
20°	1170	1179	1201
25°	1152	1171	1200
30°	1130	1161	1199
35°	1108	1149	1200
40°	1082	1141	1207
45°	1057	1134	1217
50°	1025	1131	1236
55°	1000	1132	1261
60°	961	1142	1304
65°	917	1154	1351
70°	868	1189	1426
75°	774	1240	1557
80°	660	1314	1592
85°	471	1301	1524



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.4	3.1
10°-20°	241.3	8.9
20°-30°	364.5	13.5
30°-40°	439.3	16.2
40°-50°	461.2	17.1
50°-60°	431.5	16.0
60°-70°	356.3	13.2
70°-80°	242.8	9.0
80°-90°	82.8	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°	690.2	25.5
0°-40°	1129.5	41.8
0°-60°	2022.1	74.8
0°-90°	2704.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2704.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	892	892	892	892	892	
5°	890	889	885	890	890	84
15°	850	851	852	861	863	240
25°	776	780	789	804	808	357
35°	675	682	700	723	730	422
45°	555	567	596	628	640	428
55°	426	443	483	522	537	380
65°	288	312	362	408	424	286
75°	149	183	239	284	300	159
85°	30	60	84	95	99	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	891.8	891.8	891.8	891.8	891.8
2.5°	892.7	891.8	887.3	891.8	890.9
5°	890.0	889.1	884.6	890.0	890.0
7.5°	883.7	883.7	879.2	885.5	886.4
10°	874.7	874.7	872.0	879.2	879.2
12.5°	863.9	863.9	863.9	871.1	872.0
15°	850.5	851.4	852.3	861.3	863.0
17.5°	834.3	836.1	838.8	849.6	851.4
20°	817.3	819.1	823.6	836.1	838.8
22.5°	795.8	800.2	806.5	820.9	823.6
25°	776.0	779.6	788.6	803.8	808.3
27.5°	751.8	757.2	768.8	785.0	791.3
30°	727.6	733.0	747.3	766.2	771.5
32.5°	701.6	709.6	724.9	744.6	750.9
35°	674.6	681.8	699.8	723.1	730.3
37.5°	645.0	654.9	674.6	699.8	708.7
40°	616.3	627.1	649.5	676.4	687.2
42.5°	587.6	598.4	623.5	654.0	664.8
45°	555.3	567.0	595.7	628.0	639.7
47.5°	523.0	537.4	568.8	602.9	615.4
50°	489.8	506.0	540.1	576.0	590.3
52.5°	460.2	475.5	511.4	549.9	563.4
55°	426.1	443.2	482.7	522.1	537.4
57.5°	391.2	410.0	452.2	495.2	510.5
60°	357.1	377.7	424.3	467.4	484.5
62.5°	323.9	344.5	392.9	437.8	454.8
65°	288.0	312.2	362.4	408.2	424.3
67.5°	253.9	279.9	332.8	377.7	393.8
70°	220.7	245.8	302.3	346.3	362.4
72.5°	184.8	213.5	270.0	315.8	332.8
75°	148.9	183.0	238.6	283.5	299.6
77.5°	115.7	150.7	206.3	243.1	251.2
80°	85.2	121.1	169.6	195.6	205.4
82.5°	54.7	90.6	129.2	148.0	156.1
85°	30.5	60.1	84.3	95.1	98.7
87.5°	12.6	26.0	34.1	38.6	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)