

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: P311241

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CP187-W2A-U-4500K**

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: P311241
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4500K 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: 2770.0 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

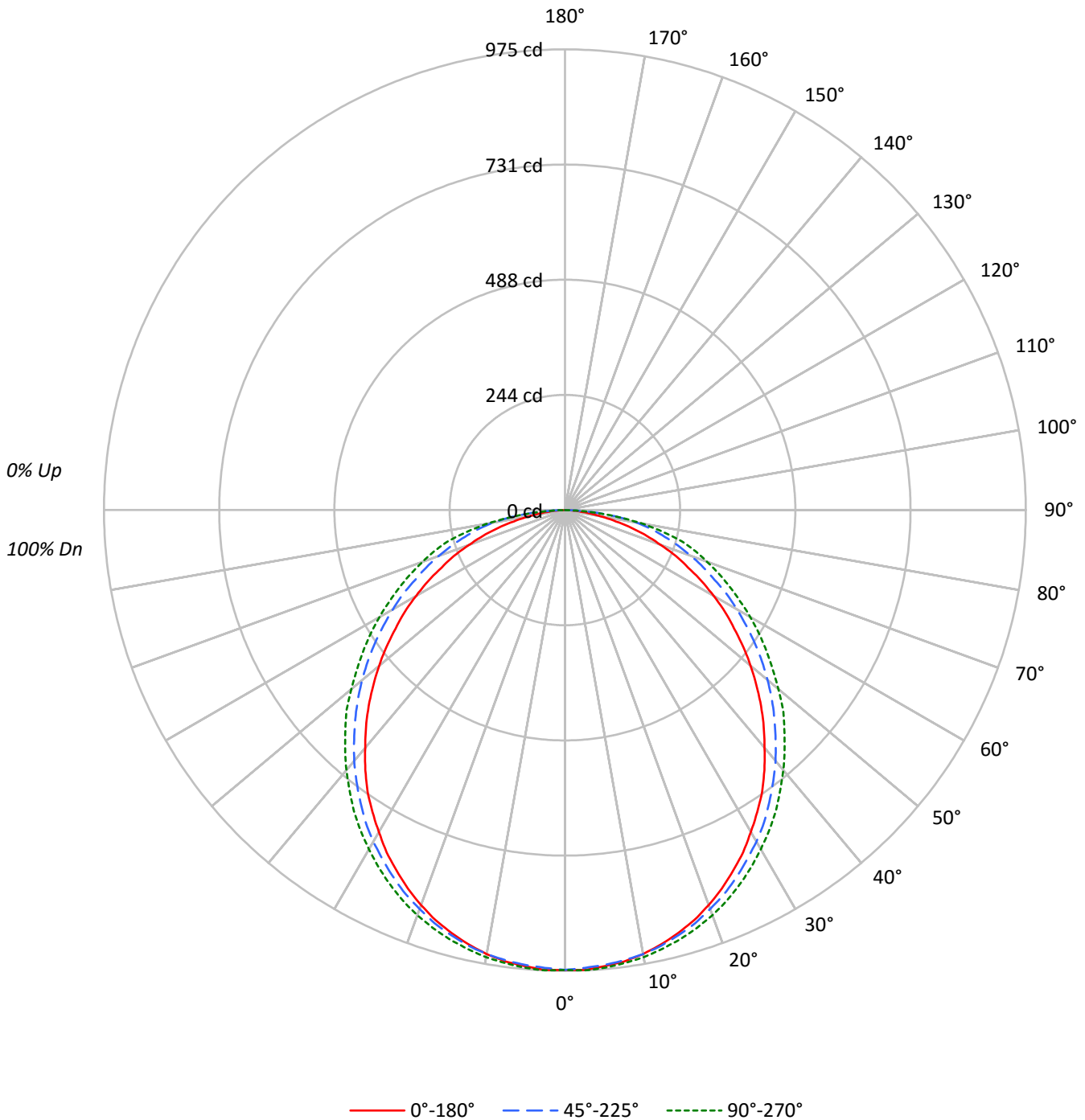
Input Watts (W): 23.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1309	1309	1309
5°	1308	1305	1313
10°	1303	1303	1313
15°	1291	1297	1310
20°	1274	1286	1306
25°	1250	1274	1298
30°	1222	1259	1288
35°	1195	1238	1278
40°	1154	1218	1263
45°	1117	1194	1249
50°	1074	1171	1234
55°	1026	1150	1222
60°	978	1132	1219
65°	916	1112	1227
70°	848	1118	1260
75°	760	1139	1331
80°	614	1206	1303
85°	462	1059	1033



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	3.3
10°-20°	263.2	9.5
20°-30°	395.7	14.3
30°-40°	471.3	17.0
40°-50°	482.4	17.4
50°-60°	434.3	15.7
60°-70°	341.1	12.3
70°-80°	221.4	8.0
80°-90°	68.5	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°	751.1	27.1
0°-40°	1222.4	44.1
0°-60°	2139.1	77.2
0°-90°	2770.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2770.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	973	973	973	973	973	
5°	969	970	966	971	972	92
15°	926	929	931	939	941	261
25°	842	849	858	872	875	388
35°	728	736	754	772	778	454
45°	587	601	627	651	656	452
55°	437	457	490	516	521	392
65°	288	310	349	378	385	286
75°	146	174	219	249	256	155
85°	30	55	69	67	67	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	973.1	973.1	973.1	973.1	973.1
2.5°	974.0	974.0	969.6	974.0	974.9
5°	968.7	970.5	966.1	971.4	972.2
7.5°	963.4	963.4	960.8	966.1	967.0
10°	953.8	954.6	953.8	959.9	960.8
12.5°	941.4	943.2	944.1	950.2	951.1
15°	926.5	929.1	930.9	938.8	940.6
17.5°	909.8	912.4	916.8	925.6	927.4
20°	889.5	893.1	898.3	909.8	912.4
22.5°	867.5	871.1	879.9	890.4	894.8
25°	842.0	849.1	857.9	871.9	874.6
27.5°	816.5	822.7	834.1	849.1	852.6
30°	786.6	796.3	810.3	825.3	828.8
32.5°	757.6	767.2	784.0	799.8	804.2
35°	727.6	736.4	754.0	772.5	777.8
37.5°	693.3	704.8	724.1	742.6	747.9
40°	657.3	671.3	693.3	712.7	718.8
42.5°	622.9	637.9	659.9	681.0	688.0
45°	586.9	600.9	627.3	651.1	656.4
47.5°	549.9	565.7	593.9	617.7	626.5
50°	513.0	529.7	559.6	584.2	589.5
52.5°	476.0	493.6	525.3	551.7	554.3
55°	437.3	456.6	490.1	515.6	520.9
57.5°	402.1	418.8	454.9	481.3	487.4
60°	363.4	381.9	420.6	445.2	453.1
62.5°	326.4	345.8	386.3	410.9	417.9
65°	287.7	309.7	349.3	378.3	385.4
67.5°	254.3	275.4	317.6	345.8	352.8
70°	215.6	239.3	284.2	313.2	320.3
72.5°	182.1	206.8	251.6	279.8	290.4
75°	146.1	174.2	219.1	249.0	256.0
77.5°	110.9	143.4	189.2	212.0	212.0
80°	79.2	113.5	155.7	166.3	168.1
82.5°	51.9	85.3	115.3	114.4	114.4
85°	29.9	55.4	68.6	66.9	66.9
87.5°	11.4	22.9	24.6	24.6	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)