

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: P311253

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CP250-W2A-U-5700K**

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: P311253
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-CP250-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 5700K 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: 2819.0 lumens
Efficiency: N/A
Efficacy: 117.0 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

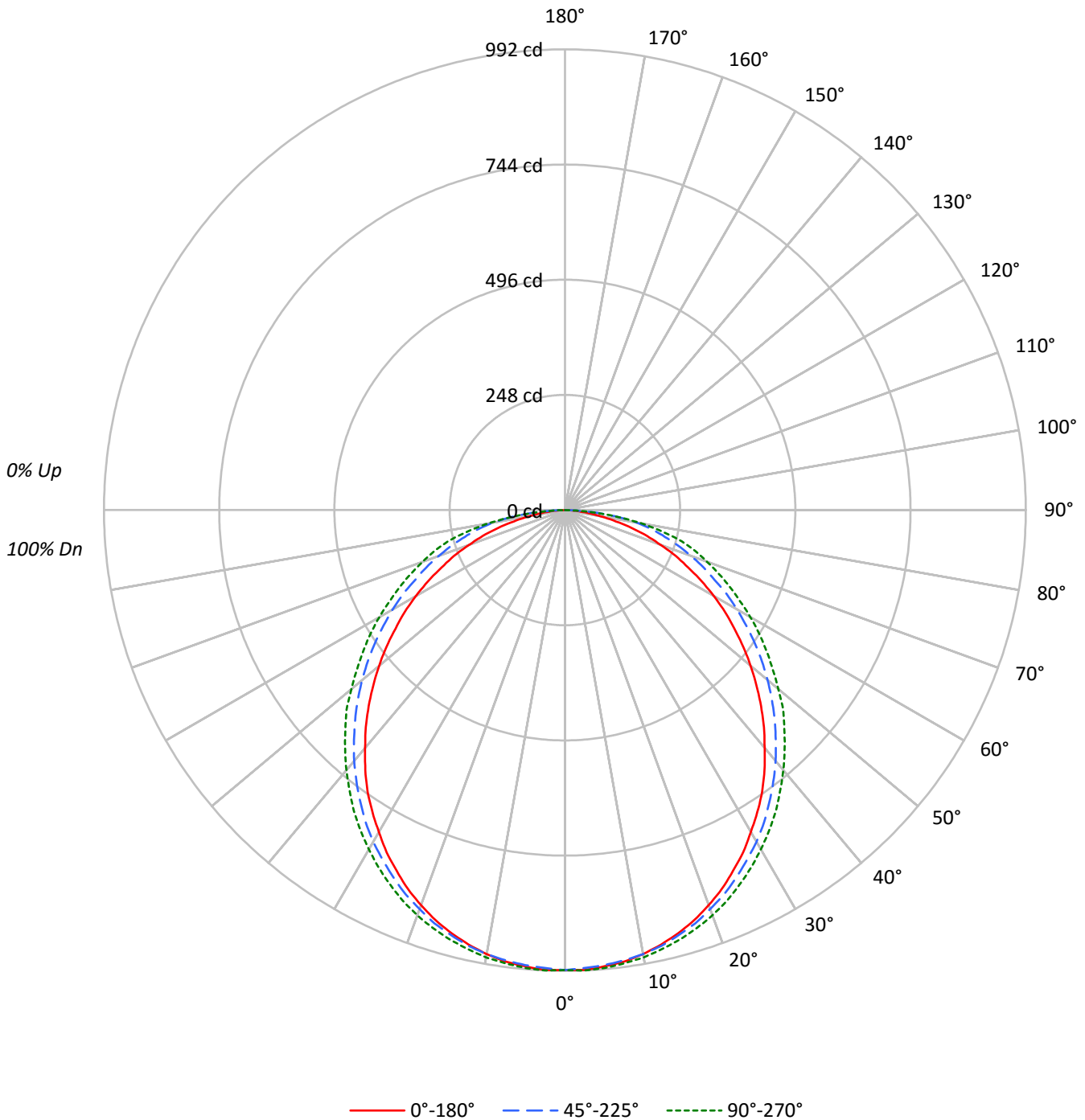
Input Watts (W): 24.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1332	1332	1332
5°	1332	1328	1336
10°	1326	1326	1336
15°	1313	1320	1333
20°	1296	1309	1329
25°	1272	1296	1321
30°	1244	1281	1310
35°	1216	1260	1300
40°	1175	1239	1285
45°	1136	1215	1271
50°	1093	1192	1256
55°	1044	1170	1244
60°	995	1152	1241
65°	932	1132	1249
70°	863	1138	1282
75°	773	1159	1355
80°	625	1228	1325
85°	469	1078	1051



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.8	3.3
10°-20°	267.9	9.5
20°-30°	402.7	14.3
30°-40°	479.7	17.0
40°-50°	490.9	17.4
50°-60°	442.0	15.7
60°-70°	347.1	12.3
70°-80°	225.3	8.0
80°-90°	69.7	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°	764.4	27.1
0°-40°	1244.0	44.1
0°-60°	2177.0	77.2
0°-90°	2819.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2819.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	990	990	990	990	990	
5°	986	988	983	988	989	94
15°	943	946	947	955	957	266
25°	857	864	873	887	890	395
35°	740	750	767	786	792	462
45°	597	612	638	663	668	460
55°	445	465	499	525	530	399
65°	293	315	356	385	392	291
75°	149	177	223	253	261	157
85°	30	56	70	68	68	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	990.3	990.3	990.3	990.3	990.3
2.5°	991.2	991.2	986.8	991.2	992.1
5°	985.9	987.6	983.2	988.5	989.4
7.5°	980.5	980.5	977.8	983.2	984.1
10°	970.6	971.5	970.6	976.9	977.8
12.5°	958.1	959.9	960.8	967.1	967.9
15°	942.9	945.6	947.4	955.4	957.2
17.5°	925.9	928.5	933.0	942.0	943.8
20°	905.3	908.9	914.2	925.9	928.5
22.5°	882.9	886.5	895.4	906.2	910.6
25°	856.9	864.1	873.0	887.4	890.0
27.5°	830.9	837.2	848.9	864.1	867.7
30°	800.5	810.4	824.7	839.9	843.5
32.5°	771.0	780.8	797.8	813.9	818.4
35°	740.5	749.5	767.4	786.2	791.6
37.5°	705.6	717.2	736.9	755.7	761.1
40°	668.9	683.2	705.6	725.3	731.6
42.5°	634.0	649.2	671.6	693.1	700.2
45°	597.2	611.6	638.4	662.6	668.0
47.5°	559.6	575.8	604.4	628.6	637.5
50°	522.0	539.0	569.5	594.6	599.9
52.5°	484.4	502.3	534.6	561.4	564.1
55°	445.0	464.7	498.7	524.7	530.1
57.5°	409.2	426.2	462.9	489.8	496.1
60°	369.8	388.6	428.0	453.1	461.1
62.5°	332.2	351.9	393.1	418.2	425.3
65°	292.8	315.2	355.5	385.0	392.2
67.5°	258.8	280.3	323.2	351.9	359.1
70°	219.4	243.6	289.2	318.8	325.9
72.5°	185.4	210.4	256.1	284.7	295.5
75°	148.6	177.3	223.0	253.4	260.6
77.5°	112.8	146.0	192.5	215.8	215.8
80°	80.6	115.5	158.5	169.2	171.0
82.5°	52.8	86.9	117.3	116.4	116.4
85°	30.4	56.4	69.8	68.1	68.1
87.5°	11.6	23.3	25.1	25.1	24.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)