

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: P314212

Luminaire Tested: **24FCZ2-30-UNV-L83050-S-CP250-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: P314212
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-L83050-S-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 2839.0 lumens
Efficiency: N/A
Efficacy: 118.8 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

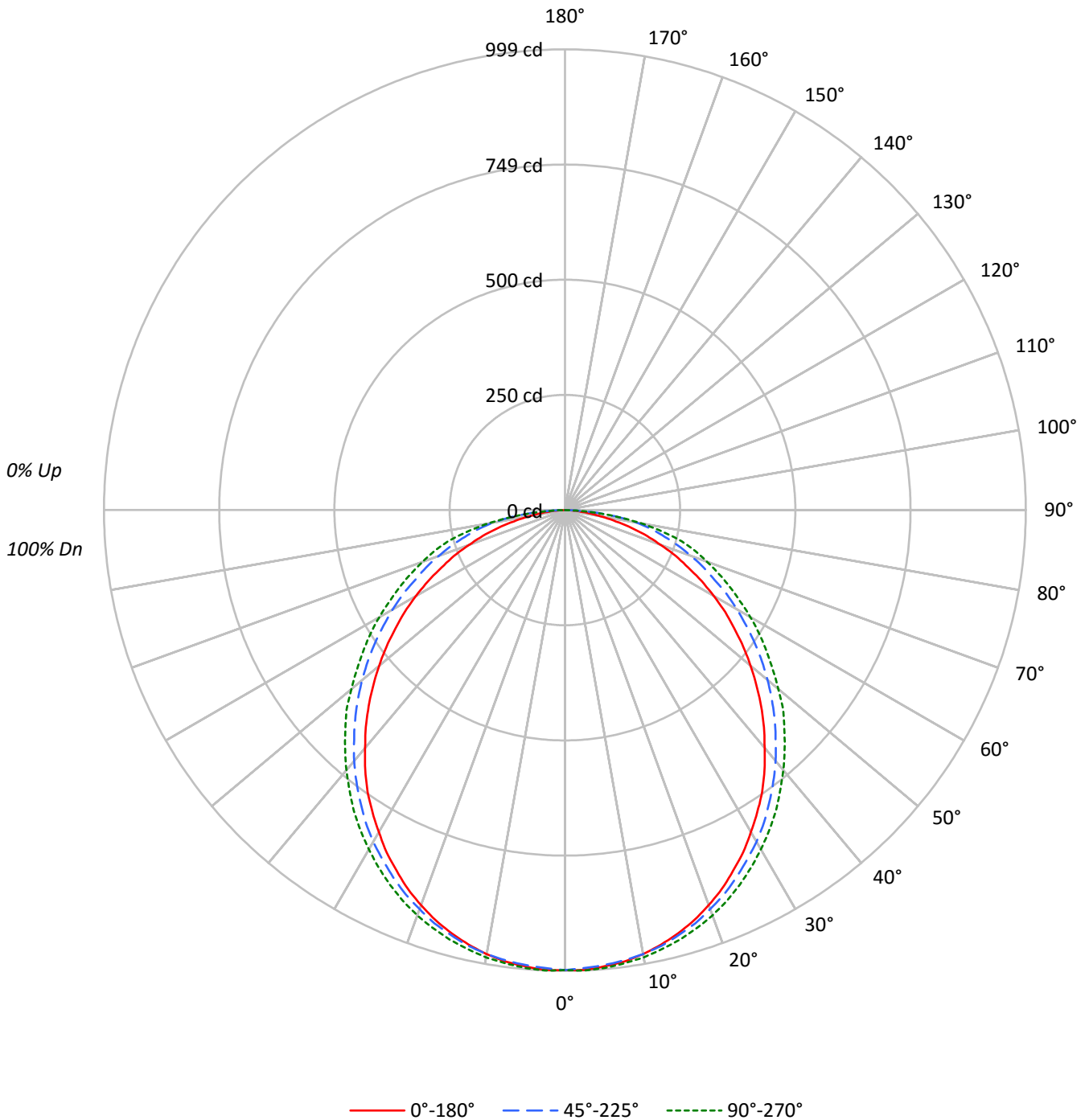
Input Watts (W): 23.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1342	1342	1342
5°	1341	1337	1346
10°	1336	1336	1345
15°	1323	1329	1343
20°	1305	1318	1339
25°	1281	1305	1331
30°	1253	1290	1320
35°	1225	1269	1309
40°	1183	1248	1294
45°	1145	1224	1280
50°	1100	1200	1265
55°	1051	1178	1252
60°	1002	1160	1250
65°	939	1140	1258
70°	869	1146	1291
75°	778	1167	1364
80°	629	1237	1334
85°	474	1085	1057



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.4	3.3
10°-20°	269.8	9.5
20°-30°	405.6	14.3
30°-40°	483.1	17.0
40°-50°	494.4	17.4
50°-60°	445.1	15.7
60°-70°	349.6	12.3
70°-80°	226.9	8.0
80°-90°	70.1	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°	769.8	27.1
0°-40°	1252.9	44.1
0°-60°	2192.4	77.2
0°-90°	2839.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2839.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	997	997	997	997	997	
5°	993	995	990	996	996	94
15°	950	952	954	962	964	268
25°	863	870	879	894	896	398
35°	746	755	773	792	797	465
45°	602	616	643	667	673	464
55°	448	468	502	528	534	402
65°	295	317	358	388	395	294
75°	150	179	224	255	262	158
85°	31	57	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°	997.4	997.4	997.4	997.4	997.4
2.5°	998.3	998.3	993.8	998.3	999.2
5°	992.9	994.7	990.1	995.6	996.5
7.5°	987.4	987.4	984.7	990.1	991.0
10°	977.5	978.4	977.5	983.8	984.7
12.5°	964.9	966.7	967.6	973.9	974.8
15°	949.6	952.3	954.1	962.2	964.0
17.5°	932.4	935.1	939.6	948.7	950.5
20°	911.7	915.3	920.7	932.4	935.1
22.5°	889.1	892.8	901.8	912.6	917.1
25°	863.0	870.2	879.2	893.7	896.4
27.5°	836.8	843.2	854.9	870.2	873.8
30°	806.2	816.1	830.5	845.9	849.5
32.5°	776.4	786.3	803.5	819.7	824.2
35°	745.8	754.8	772.8	791.8	797.2
37.5°	710.6	722.3	742.2	761.1	766.5
40°	673.6	688.1	710.6	730.4	736.7
42.5°	638.5	653.8	676.3	698.0	705.2
45°	601.5	615.9	643.0	667.3	672.7
47.5°	563.6	579.8	608.7	633.0	642.1
50°	525.7	542.9	573.5	598.8	604.2
52.5°	487.9	505.9	538.4	565.4	568.1
55°	448.2	468.0	502.3	528.4	533.8
57.5°	412.1	429.2	466.2	493.3	499.6
60°	372.4	391.4	431.0	456.3	464.4
62.5°	334.6	354.4	395.9	421.1	428.3
65°	294.9	317.4	358.0	387.8	395.0
67.5°	260.6	282.3	325.5	354.4	361.6
70°	220.9	245.3	291.3	321.0	328.2
72.5°	186.7	211.9	257.9	286.8	297.6
75°	149.7	178.6	224.5	255.2	262.4
77.5°	113.6	147.0	193.9	217.3	217.3
80°	81.2	116.3	159.6	170.4	172.2
82.5°	53.2	87.5	118.1	117.2	117.2
85°	30.7	56.8	70.3	68.5	68.5
87.5°	11.7	23.4	25.2	25.2	24.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)