

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: P311251

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CP250-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: P311251
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 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: 2784.0 lumens
Efficiency: N/A
Efficacy: 116.5 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

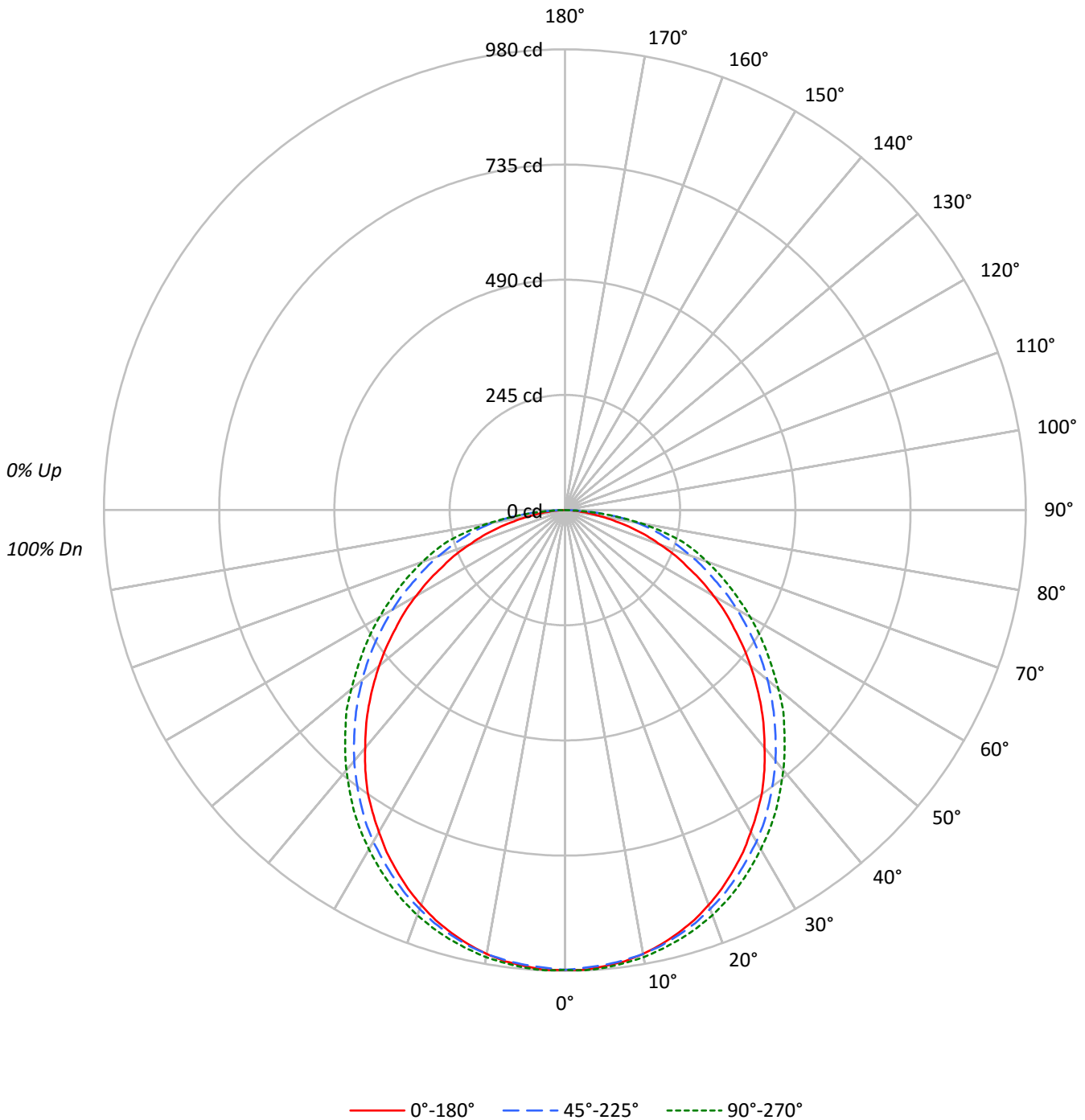
Input Watts (W): 23.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1316	1316	1316
5°	1315	1311	1320
10°	1310	1310	1319
15°	1297	1303	1317
20°	1280	1293	1313
25°	1256	1280	1305
30°	1228	1265	1294
35°	1201	1245	1284
40°	1160	1224	1269
45°	1122	1200	1255
50°	1079	1177	1240
55°	1031	1156	1228
60°	983	1137	1225
65°	921	1118	1233
70°	852	1124	1266
75°	763	1145	1338
80°	617	1213	1309
85°	465	1065	1037



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.6	3.3
10°-20°	264.6	9.5
20°-30°	397.7	14.3
30°-40°	473.7	17.0
40°-50°	484.8	17.4
50°-60°	436.5	15.7
60°-70°	342.8	12.3
70°-80°	222.5	8.0
80°-90°	68.8	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°	754.9	27.1
0°-40°	1228.6	44.1
0°-60°	2149.9	77.2
0°-90°	2784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2784.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	974	975	971	976	977	93
15°	931	934	936	944	945	263
25°	846	853	862	876	879	390
35°	731	740	758	776	782	456
45°	590	604	630	654	660	455
55°	440	459	493	518	524	394
65°	289	311	351	380	387	288
75°	147	175	220	250	257	155
85°	30	56	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°	978.0	978.0	978.0	978.0	978.0
2.5°	978.9	978.9	974.5	978.9	979.8
5°	973.6	975.4	971.0	976.3	977.2
7.5°	968.3	968.3	965.7	971.0	971.8
10°	958.6	959.5	958.6	964.8	965.7
12.5°	946.2	948.0	948.9	955.0	955.9
15°	931.2	933.8	935.6	943.5	945.3
17.5°	914.4	917.0	921.4	930.3	932.1
20°	894.0	897.6	902.9	914.4	917.0
22.5°	871.9	875.5	884.3	894.9	899.3
25°	846.3	853.4	862.2	876.3	879.0
27.5°	820.6	826.8	838.3	853.4	856.9
30°	790.6	800.3	814.4	829.5	833.0
32.5°	761.4	771.1	787.9	803.8	808.3
35°	731.3	740.2	757.8	776.4	781.7
37.5°	696.8	708.3	727.8	746.4	751.7
40°	660.6	674.7	696.8	716.3	722.5
42.5°	626.1	641.1	663.2	684.4	691.5
45°	589.8	604.0	630.5	654.4	659.7
47.5°	552.7	568.6	596.9	620.8	629.6
50°	515.5	532.3	562.4	587.2	592.5
52.5°	478.4	496.1	527.9	554.5	557.1
55°	439.5	459.0	492.6	518.2	523.5
57.5°	404.1	420.9	457.2	483.7	489.9
60°	365.2	383.8	422.7	447.5	455.4
62.5°	328.1	347.5	388.2	413.0	420.0
65°	289.2	311.3	351.1	380.2	387.3
67.5°	255.6	276.8	319.2	347.5	354.6
70°	216.7	240.5	285.6	314.8	321.9
72.5°	183.1	207.8	252.9	281.2	291.8
75°	146.8	175.1	220.2	250.3	257.3
77.5°	111.4	144.1	190.1	213.1	213.1
80°	79.6	114.1	156.5	167.1	168.9
82.5°	52.2	85.8	115.8	115.0	115.0
85°	30.1	55.7	69.0	67.2	67.2
87.5°	11.5	23.0	24.8	24.8	23.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)