

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: P311221

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CA125-W2A-U-3500K**

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: P311221
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-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 3500K 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: 2835.0 lumens
Efficiency: N/A
Efficacy: 120.6 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

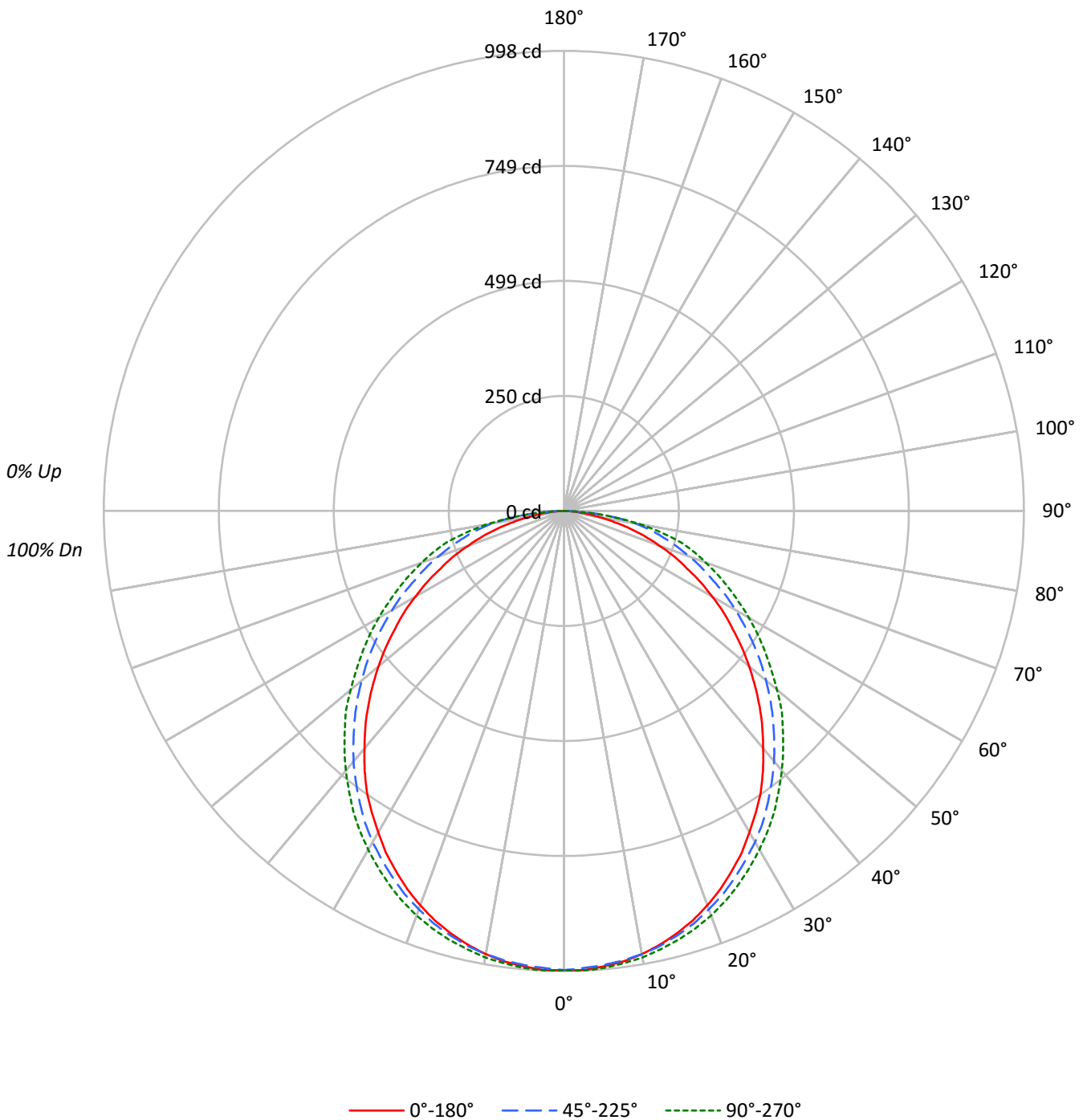
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1340	1340	1340
5°	1339	1336	1344
10°	1334	1334	1343
15°	1321	1327	1341
20°	1304	1316	1337
25°	1279	1303	1329
30°	1251	1289	1318
35°	1223	1268	1307
40°	1182	1246	1292
45°	1143	1222	1278
50°	1099	1199	1263
55°	1050	1177	1251
60°	1001	1158	1248
65°	938	1138	1256
70°	868	1144	1290
75°	777	1166	1362
80°	628	1235	1333
85°	472	1084	1056



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.3	3.3
10°-20°	269.4	9.5
20°-30°	405.0	14.3
30°-40°	482.4	17.0
40°-50°	493.7	17.4
50°-60°	444.5	15.7
60°-70°	349.1	12.3
70°-80°	226.5	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°	768.7	27.1
0°-40°	1251.1	44.1
0°-60°	2189.3	77.2
0°-90°	2835.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2835.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	996	996	996	996	996	
5°	992	993	989	994	995	94
15°	948	951	953	961	963	267
25°	862	869	878	892	895	397
35°	745	754	772	791	796	465
45°	601	615	642	666	672	463
55°	448	467	502	528	533	401
65°	294	317	358	387	394	293
75°	150	178	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°	996.0	996.0	996.0	996.0	996.0
2.5°	996.9	996.9	992.4	996.9	997.8
5°	991.5	993.3	988.8	994.2	995.1
7.5°	986.0	986.0	983.3	988.8	989.7
10°	976.1	977.0	976.1	982.4	983.3
12.5°	963.5	965.3	966.2	972.5	973.4
15°	948.2	950.9	952.7	960.8	962.6
17.5°	931.1	933.8	938.3	947.3	949.1
20°	910.4	914.0	919.4	931.1	933.8
22.5°	887.9	891.5	900.5	911.3	915.8
25°	861.8	869.0	878.0	892.4	895.1
27.5°	835.7	842.0	853.7	869.0	872.6
30°	805.0	815.0	829.4	844.7	848.3
32.5°	775.3	785.2	802.3	818.6	823.1
35°	744.7	753.7	771.7	790.6	796.0
37.5°	709.6	721.3	741.1	760.0	765.4
40°	672.7	687.1	709.6	729.4	735.7
42.5°	637.6	652.9	675.4	697.0	704.2
45°	600.6	615.0	642.1	666.4	671.8
47.5°	562.8	579.0	607.8	632.2	641.2
50°	525.0	542.1	572.7	597.9	603.3
52.5°	487.2	505.2	537.6	564.6	567.3
55°	447.5	467.4	501.6	527.7	533.1
57.5°	411.5	428.6	465.6	492.6	498.9
60°	371.9	390.8	430.4	455.7	463.8
62.5°	334.1	353.9	395.3	420.5	427.7
65°	294.5	317.0	357.5	387.2	394.4
67.5°	260.2	281.9	325.1	353.9	361.1
70°	220.6	244.9	290.9	320.6	327.8
72.5°	186.4	211.6	257.5	286.4	297.2
75°	149.5	178.3	224.2	254.8	262.0
77.5°	113.5	146.8	193.6	217.0	217.0
80°	81.0	116.2	159.4	170.2	172.0
82.5°	53.1	87.3	118.0	117.1	117.1
85°	30.6	56.7	70.2	68.4	68.4
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)