

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: P311327

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CP187-W2A-U-2700K**

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: P311327
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: 24FCZ2-35-UNV-L82765-S-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 2700K 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: 2934.0 lumens
Efficiency: N/A
Efficacy: 104.8 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

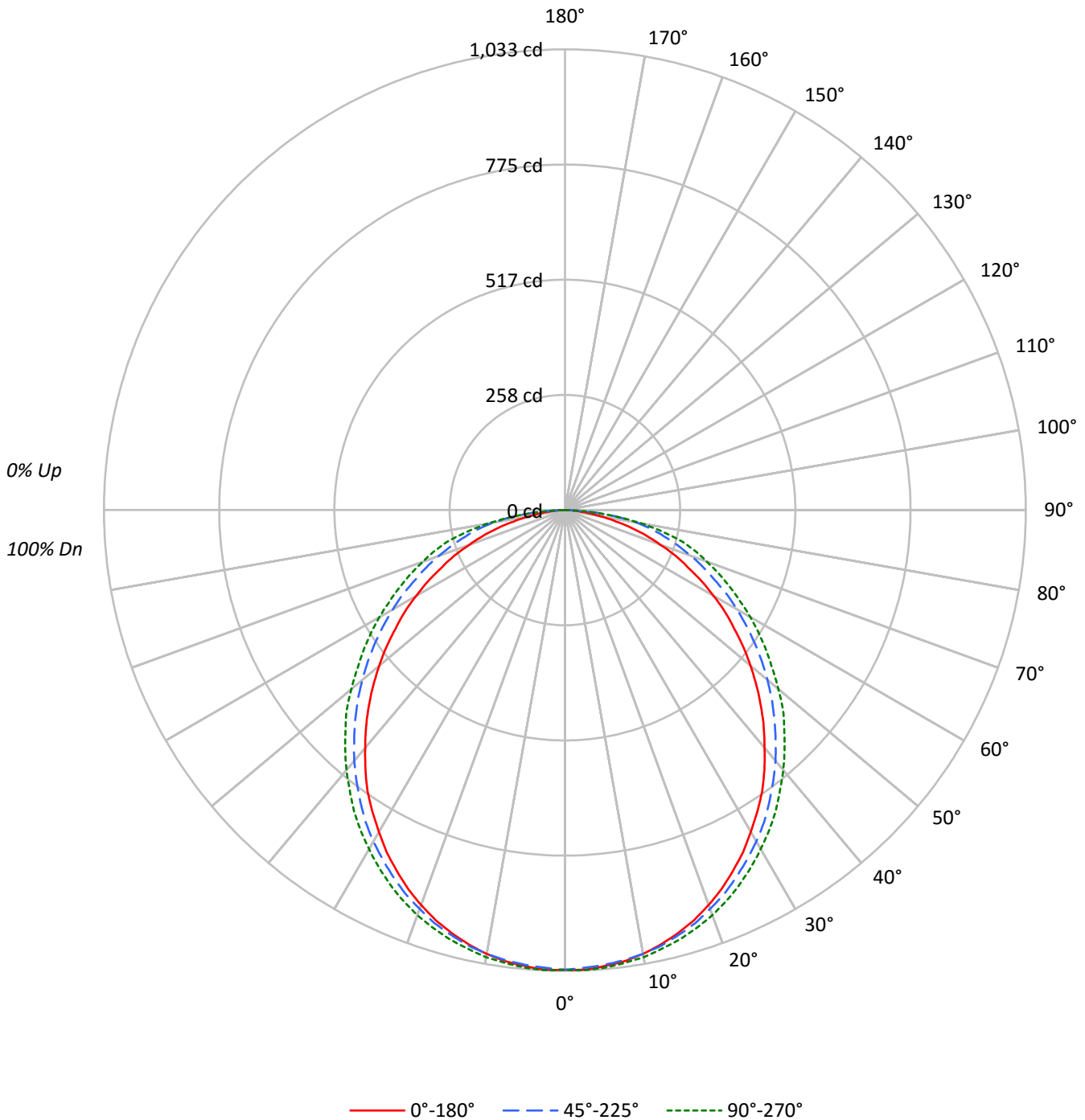
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1387	1387	1387
5°	1386	1382	1391
10°	1380	1380	1390
15°	1367	1373	1388
20°	1349	1362	1384
25°	1324	1349	1375
30°	1294	1333	1364
35°	1266	1312	1353
40°	1223	1290	1337
45°	1183	1264	1323
50°	1137	1241	1307
55°	1087	1218	1294
60°	1036	1199	1292
65°	970	1178	1300
70°	898	1184	1334
75°	804	1207	1410
80°	650	1278	1379
85°	489	1122	1093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.6	3.3
10°-20°	278.8	9.5
20°-30°	419.1	14.3
30°-40°	499.3	17.0
40°-50°	511.0	17.4
50°-60°	460.0	15.7
60°-70°	361.3	12.3
70°-80°	234.5	8.0
80°-90°	72.5	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°	795.5	27.1
0°-40°	1294.8	44.1
0°-60°	2265.8	77.2
0°-90°	2934.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2934.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1031	1031	1031	1031	1031	
5°	1026	1028	1023	1029	1030	97
15°	981	984	986	994	996	277
25°	892	899	909	924	926	411
35°	771	780	799	818	824	481
45°	622	636	664	690	695	479
55°	463	484	519	546	552	415
65°	305	328	370	401	408	303
75°	155	184	232	264	271	164
85°	32	59	73	71	71	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1030.7	1030.7	1030.7	1030.7	1030.7
2.5°	1031.7	1031.7	1027.0	1031.7	1032.6
5°	1026.1	1027.9	1023.3	1028.9	1029.8
7.5°	1020.5	1020.5	1017.7	1023.3	1024.2
10°	1010.2	1011.2	1010.2	1016.8	1017.7
12.5°	997.2	999.0	1000.0	1006.5	1007.4
15°	981.3	984.1	986.0	994.4	996.3
17.5°	963.6	966.4	971.1	980.4	982.3
20°	942.2	945.9	951.5	963.6	966.4
22.5°	918.9	922.6	931.9	943.1	947.8
25°	891.9	899.3	908.6	923.6	926.4
27.5°	864.8	871.4	883.5	899.3	903.1
30°	833.2	843.4	858.3	874.2	877.9
32.5°	802.4	812.7	830.4	847.1	851.8
35°	770.7	780.0	798.7	818.2	823.8
37.5°	734.4	746.5	767.0	786.6	792.2
40°	696.2	711.1	734.4	754.9	761.4
42.5°	659.8	675.7	699.0	721.3	728.8
45°	621.6	636.5	664.5	689.6	695.2
47.5°	582.5	599.2	629.1	654.2	663.5
50°	543.3	561.0	592.7	618.8	624.4
52.5°	504.2	522.8	556.4	584.3	587.1
55°	463.2	483.7	519.1	546.1	551.7
57.5°	425.9	443.6	481.8	509.8	516.3
60°	384.9	404.5	445.5	471.6	480.0
62.5°	345.8	366.3	409.1	435.2	442.7
65°	304.7	328.0	370.0	400.7	408.2
67.5°	269.3	291.7	336.4	366.3	373.7
70°	228.3	253.5	301.0	331.8	339.2
72.5°	192.9	219.0	266.5	296.4	307.5
75°	154.7	184.5	232.1	263.7	271.2
77.5°	117.4	151.9	200.4	224.6	224.6
80°	83.9	120.2	165.0	176.1	178.0
82.5°	55.0	90.4	122.1	121.2	121.2
85°	31.7	58.7	72.7	70.8	70.8
87.5°	12.1	24.2	26.1	26.1	25.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)