

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: P311239

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CP187-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: P311239
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-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 2663.0 lumens
Efficiency: N/A
Efficacy: 113.3 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

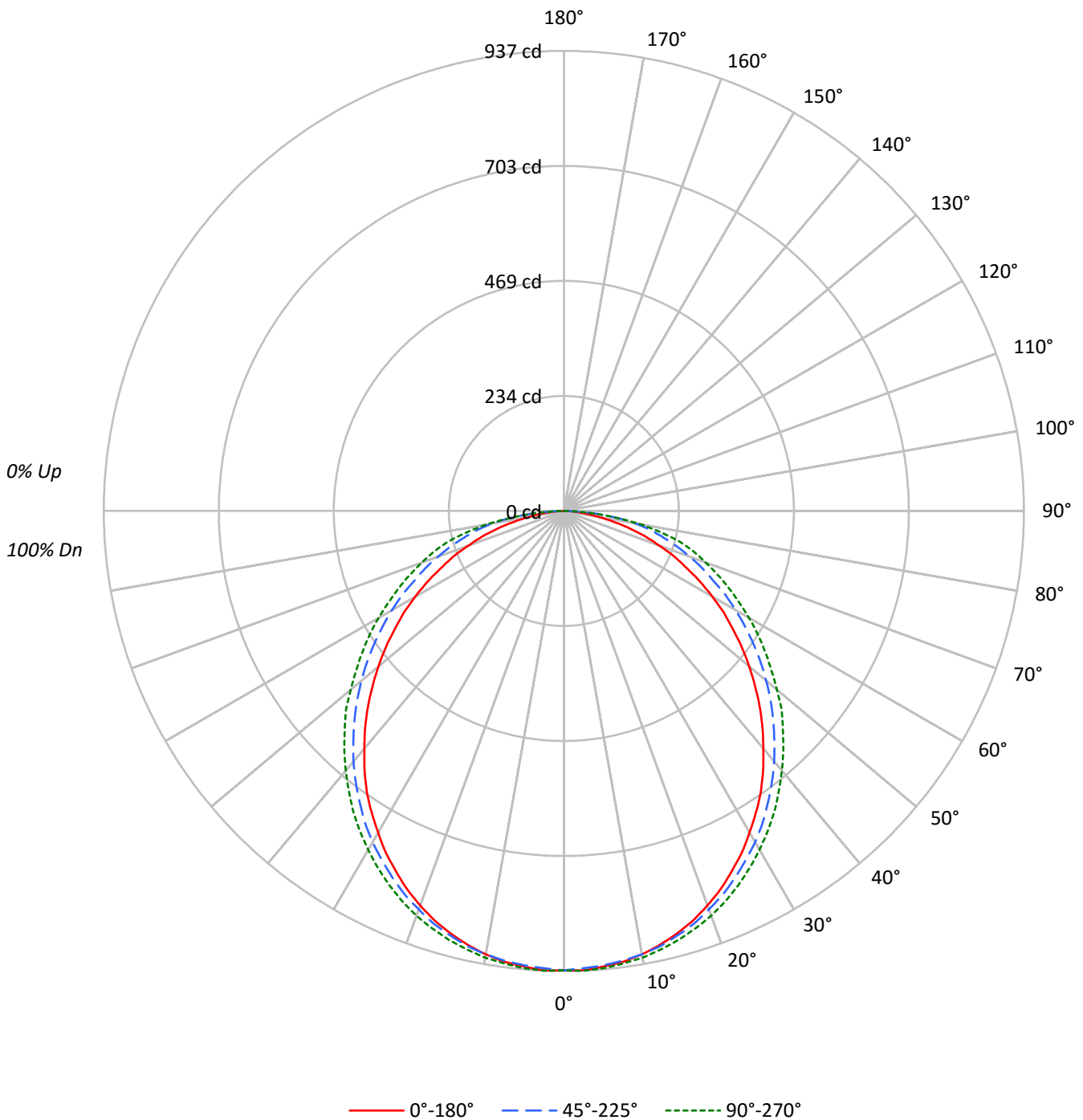
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311239

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-S-CP187-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P311239

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-S-CP187-W2A-U-3500K

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°	1259	1259	1259
5°	1258	1254	1262
10°	1253	1253	1262
15°	1241	1247	1260
20°	1225	1237	1256
25°	1202	1224	1248
30°	1175	1210	1238
35°	1149	1191	1228
40°	1110	1171	1214
45°	1074	1148	1201
50°	1032	1126	1186
55°	986	1105	1175
60°	940	1088	1172
65°	881	1069	1180
70°	815	1075	1211
75°	730	1095	1279
80°	590	1160	1252
85°	445	1019	993



TEST NUMBER: P311239

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-S-CP187-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.6	3.3
10°-20°	253.1	9.5
20°-30°	380.4	14.3
30°-40°	453.1	17.0
40°-50°	463.8	17.4
50°-60°	417.5	15.7
60°-70°	327.9	12.3
70°-80°	212.8	8.0
80°-90°	65.8	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°	722.1	27.1
0°-40°	1175.2	44.1
0°-60°	2056.5	77.2
0°-90°	2663.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2663.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	936	936	936	936	936	
5°	931	933	929	934	935	88
15°	891	893	895	902	904	251
25°	810	816	825	838	841	373
35°	700	708	725	743	748	436
45°	564	578	603	626	631	435
55°	420	439	471	496	501	377
65°	277	298	336	364	370	275
75°	140	168	211	239	246	149
85°	29	53	66	64	64	35
90°	0	0	0	0	0	



TEST NUMBER: P311239

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-S-CP187-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	935.5	935.5	935.5	935.5	935.5
2.5°	936.4	936.4	932.1	936.4	937.2
5°	931.3	933.0	928.8	933.8	934.7
7.5°	926.2	926.2	923.7	928.8	929.6
10°	916.9	917.8	916.9	922.8	923.7
12.5°	905.1	906.8	907.6	913.5	914.4
15°	890.7	893.2	894.9	902.5	904.2
17.5°	874.6	877.2	881.4	889.9	891.5
20°	855.2	858.6	863.6	874.6	877.2
22.5°	834.0	837.4	845.9	856.0	860.2
25°	809.5	816.3	824.7	838.3	840.8
27.5°	785.0	790.9	801.9	816.3	819.6
30°	756.2	765.5	779.0	793.4	796.8
32.5°	728.3	737.6	753.7	768.9	773.1
35°	699.5	708.0	724.9	742.7	747.7
37.5°	666.5	677.5	696.1	713.9	719.0
40°	631.9	645.4	666.5	685.2	691.1
42.5°	598.9	613.3	634.4	654.7	661.5
45°	564.2	577.7	603.1	625.9	631.0
47.5°	528.7	543.9	571.0	593.8	602.3
50°	493.1	509.2	538.0	561.7	566.7
52.5°	457.6	474.5	505.0	530.4	532.9
55°	420.4	439.0	471.1	495.7	500.8
57.5°	386.6	402.6	437.3	462.7	468.6
60°	349.3	367.1	404.3	428.0	435.6
62.5°	313.8	332.4	371.3	395.0	401.8
65°	276.6	297.7	335.8	363.7	370.5
67.5°	244.5	264.8	305.4	332.4	339.2
70°	207.2	230.1	273.2	301.1	307.9
72.5°	175.1	198.8	241.9	269.0	279.1
75°	140.4	167.5	210.6	239.4	246.1
77.5°	106.6	137.9	181.9	203.9	203.9
80°	76.1	109.1	149.7	159.9	161.6
82.5°	49.9	82.0	110.8	110.0	110.0
85°	28.8	53.3	66.0	64.3	64.3
87.5°	11.0	22.0	23.7	23.7	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)