

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: P310654

Luminaire Tested: **24FCZ2-35-UNV-L82765-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: P310654
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 2972.0 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

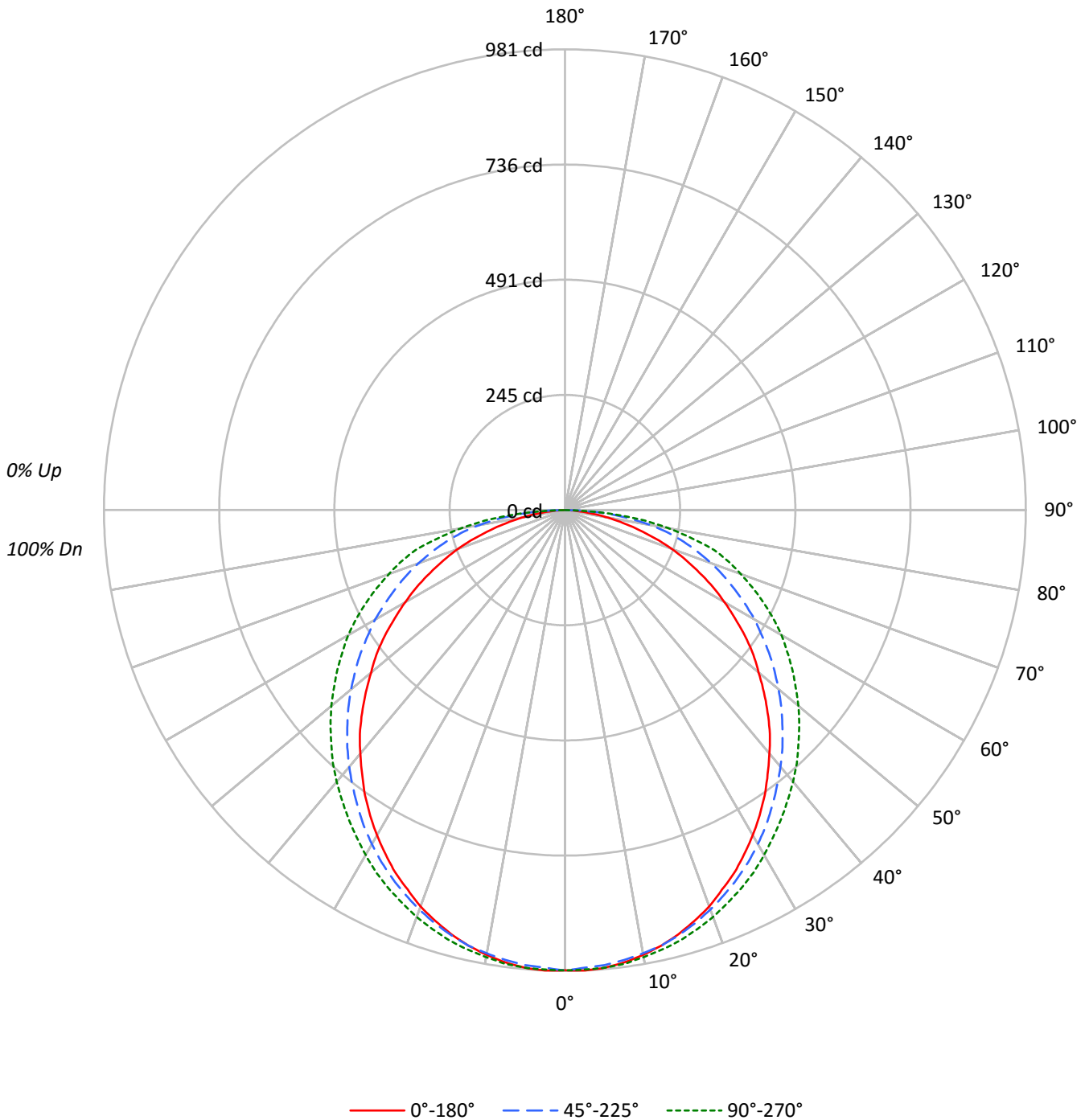
Input Watts (W): 28.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310654

CATALOG NUMBER: 24FCZ2-35-UNV-L82765-CP187-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P310654

CATALOG NUMBER: 24FCZ2-35-UNV-L82765-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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1319	1319	1319
5°	1321	1313	1321
10°	1314	1309	1320
15°	1302	1305	1321
20°	1286	1296	1320
25°	1266	1287	1319
30°	1242	1276	1317
35°	1218	1263	1318
40°	1190	1254	1327
45°	1161	1246	1338
50°	1127	1243	1358
55°	1099	1244	1385
60°	1056	1255	1433
65°	1008	1268	1485
70°	954	1307	1567
75°	851	1364	1712
80°	726	1444	1750
85°	517	1431	1675



TEST NUMBER: P310654

CATALOG NUMBER: 24FCZ2-35-UNV-L82765-CP187-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.8	3.1
10°-20°	265.2	8.9
20°-30°	400.6	13.5
30°-40°	482.8	16.2
40°-50°	506.9	17.1
50°-60°	474.2	16.0
60°-70°	391.6	13.2
70°-80°	266.9	9.0
80°-90°	91.0	3.1
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°	758.6	25.5
0°-40°	1241.4	41.8
0°-60°	2222.5	74.8
0°-90°	2972.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2972.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	980	980	980	980	980	
5°	978	977	972	978	978	93
15°	935	936	937	947	949	263
25°	853	857	867	884	888	392
35°	742	749	769	795	803	463
45°	610	623	655	690	703	471
55°	468	487	530	574	591	418
65°	316	343	398	449	466	314
75°	164	201	262	312	329	175
85°	34	66	93	104	108	42
90°	0	0	0	0	0	



TEST NUMBER: P310654

CATALOG NUMBER: 24FCZ2-35-UNV-L82765-CP187-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	980.1	980.1	980.1	980.1	980.1
2.5°	981.1	980.1	975.2	980.1	979.2
5°	978.2	977.2	972.3	978.2	978.2
7.5°	971.3	971.3	966.3	973.2	974.2
10°	961.4	961.4	958.4	966.3	966.3
12.5°	949.6	949.6	949.6	957.5	958.4
15°	934.8	935.8	936.8	946.6	948.6
17.5°	917.0	919.0	922.0	933.8	935.8
20°	898.3	900.3	905.2	919.0	922.0
22.5°	874.6	879.6	886.5	902.2	905.2
25°	852.9	856.9	866.7	883.5	888.4
27.5°	826.3	832.2	845.1	862.8	869.7
30°	799.7	805.6	821.4	842.1	848.0
32.5°	771.1	780.0	796.7	818.4	825.3
35°	741.5	749.4	769.1	794.8	802.6
37.5°	709.0	719.8	741.5	769.1	779.0
40°	677.4	689.3	713.9	743.5	755.3
42.5°	645.9	657.7	685.3	718.8	730.7
45°	610.4	623.2	654.7	690.2	703.1
47.5°	574.9	590.6	625.2	662.6	676.4
50°	538.4	556.1	593.6	633.0	648.8
52.5°	505.8	522.6	562.1	604.5	619.2
55°	468.4	487.1	530.5	573.9	590.6
57.5°	429.9	450.6	497.0	544.3	561.1
60°	392.5	415.1	466.4	513.7	532.5
62.5°	356.0	378.6	431.9	481.2	499.9
65°	316.5	343.1	398.4	448.7	466.4
67.5°	279.1	307.6	365.8	415.1	432.9
70°	242.6	270.2	332.3	380.6	398.4
72.5°	203.1	234.7	296.8	347.1	365.8
75°	163.7	201.2	262.3	311.6	329.3
77.5°	127.2	165.7	226.8	267.2	276.1
80°	93.7	133.1	186.4	215.0	225.8
82.5°	60.1	99.6	142.0	162.7	171.6
85°	33.5	66.1	92.7	104.5	108.5
87.5°	13.8	28.6	37.5	42.4	42.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)