

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: P311196

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CP187-W2A-U-4500K**

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: P311196
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: 24FCZ2-30HE-UNV-L82765-S-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 2804.0 lumens
Efficiency: N/A
Efficacy: 130.4 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

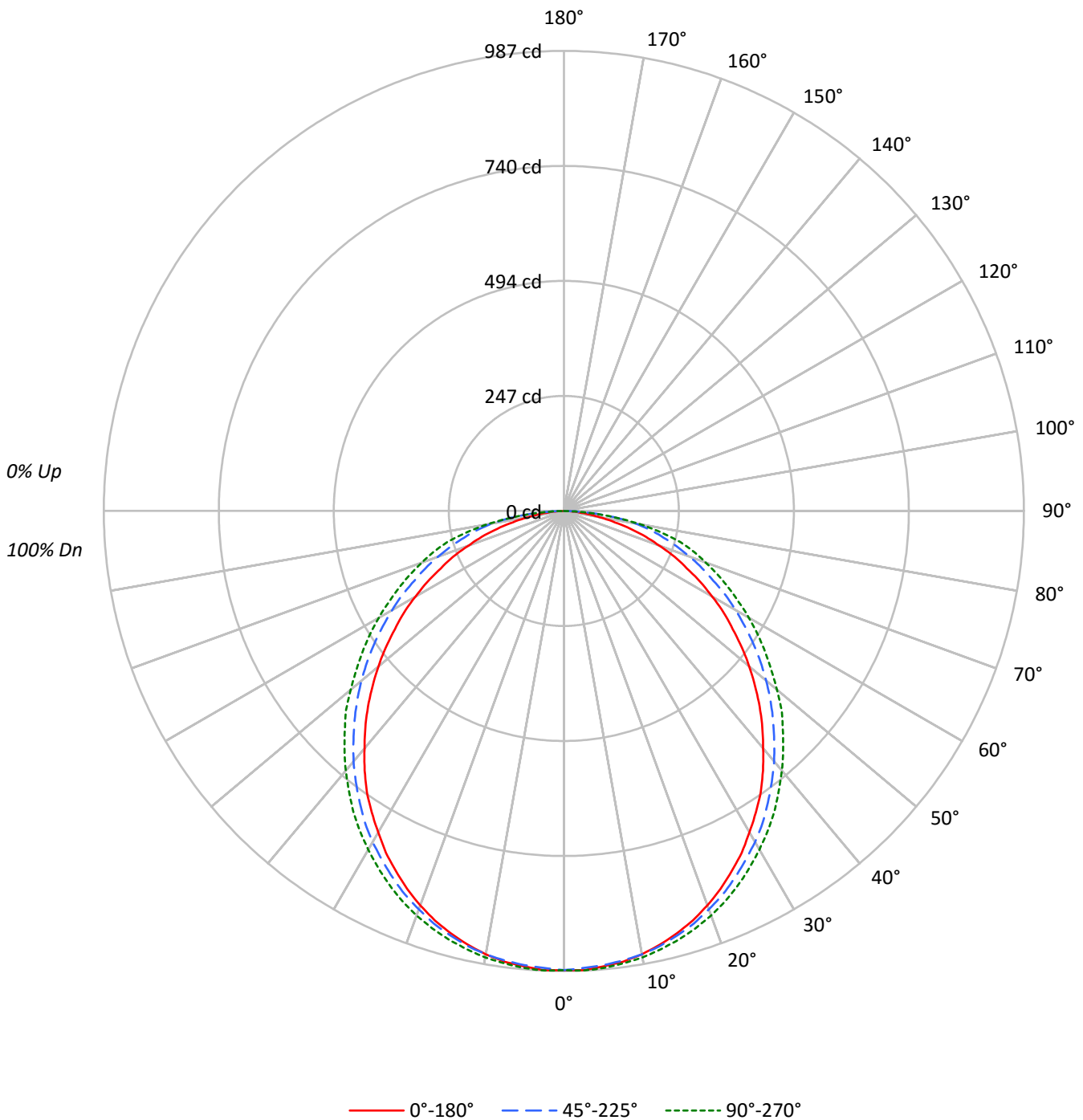
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-30HE-UNV-L82765-S-CP187-W2A-U-4500K

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°	1325	1325	1325
5°	1324	1321	1329
10°	1319	1319	1329
15°	1306	1313	1326
20°	1289	1302	1322
25°	1265	1289	1314
30°	1237	1274	1304
35°	1210	1254	1293
40°	1169	1233	1278
45°	1130	1208	1264
50°	1087	1186	1249
55°	1038	1164	1237
60°	990	1146	1234
65°	927	1126	1242
70°	858	1132	1275
75°	768	1153	1347
80°	621	1221	1318
85°	468	1073	1045



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.3	3.3
10°-20°	266.5	9.5
20°-30°	400.6	14.3
30°-40°	477.1	17.0
40°-50°	488.3	17.4
50°-60°	439.6	15.7
60°-70°	345.2	12.3
70°-80°	224.1	8.0
80°-90°	69.3	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°	760.3	27.1
0°-40°	1237.4	44.1
0°-60°	2165.4	77.2
0°-90°	2804.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2804.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	985	985	985	985	985	
5°	981	982	978	983	984	93
15°	938	940	942	950	952	264
25°	852	860	868	883	885	393
35°	737	746	763	782	787	460
45°	594	608	635	659	664	458
55°	443	462	496	522	527	397
65°	291	314	354	383	390	290
75°	148	176	222	252	259	156
85°	30	56	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°	985.1	985.1	985.1	985.1	985.1
2.5°	986.0	986.0	981.5	986.0	986.8
5°	980.6	982.4	977.9	983.3	984.2
7.5°	975.3	975.3	972.6	977.9	978.8
10°	965.5	966.4	965.5	971.7	972.6
12.5°	953.0	954.8	955.7	961.9	962.8
15°	937.9	940.5	942.3	950.3	952.1
17.5°	920.9	923.6	928.1	937.0	938.7
20°	900.5	904.0	909.4	920.9	923.6
22.5°	878.2	881.7	890.7	901.3	905.8
25°	852.4	859.5	868.4	882.6	885.3
27.5°	826.5	832.8	844.3	859.5	863.0
30°	796.2	806.0	820.3	835.4	839.0
32.5°	766.9	776.7	793.6	809.6	814.1
35°	736.6	745.5	763.3	782.0	787.3
37.5°	701.8	713.4	733.0	751.7	757.1
40°	665.3	679.6	701.8	721.4	727.7
42.5°	630.6	645.7	668.0	689.4	696.5
45°	594.1	608.3	635.0	659.1	664.4
47.5°	556.7	572.7	601.2	625.2	634.1
50°	519.3	536.2	566.5	591.4	596.7
52.5°	481.8	499.7	531.7	558.4	561.1
55°	442.7	462.2	496.1	521.9	527.3
57.5°	407.0	424.0	460.5	487.2	493.4
60°	367.8	386.5	425.7	450.7	458.7
62.5°	330.4	350.0	391.0	415.9	423.1
65°	291.2	313.5	353.6	383.0	390.1
67.5°	257.4	278.8	321.5	350.0	357.2
70°	218.2	242.3	287.7	317.1	324.2
72.5°	184.4	209.3	254.7	283.2	293.9
75°	147.8	176.3	221.8	252.1	259.2
77.5°	112.2	145.2	191.5	214.6	214.6
80°	80.2	114.9	157.6	168.3	170.1
82.5°	52.5	86.4	116.7	115.8	115.8
85°	30.3	56.1	69.5	67.7	67.7
87.5°	11.6	23.2	24.9	24.9	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)