

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: P314184

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-S-CP187-W2A-U-5000K**

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: P314184
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-L83050-S-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 2925.0 lumens
Efficiency: N/A
Efficacy: 132.4 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

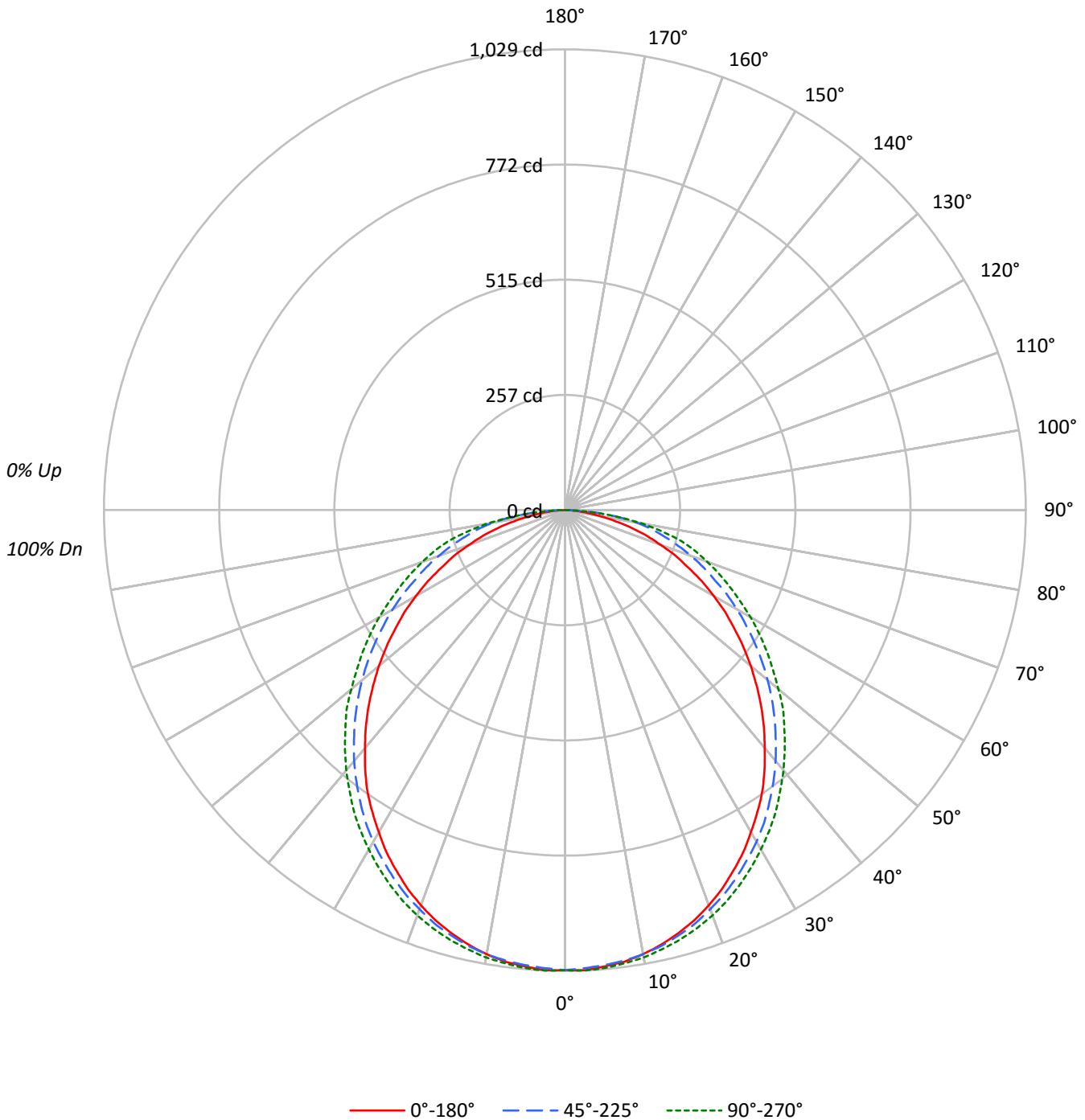
Input Watts (W): 22.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1383	1383	1383
5°	1382	1378	1387
10°	1376	1376	1386
15°	1363	1369	1383
20°	1345	1358	1380
25°	1320	1345	1371
30°	1290	1329	1360
35°	1262	1308	1349
40°	1219	1286	1333
45°	1179	1260	1319
50°	1134	1237	1303
55°	1083	1214	1290
60°	1033	1195	1288
65°	967	1174	1295
70°	895	1181	1330
75°	802	1202	1406
80°	648	1274	1375
85°	488	1119	1090



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.3	3.3
10°-20°	278.0	9.5
20°-30°	417.8	14.3
30°-40°	497.7	17.0
40°-50°	509.4	17.4
50°-60°	458.6	15.7
60°-70°	360.1	12.3
70°-80°	233.7	8.0
80°-90°	72.3	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°	793.1	27.1
0°-40°	1290.8	44.1
0°-60°	2258.8	77.2
0°-90°	2925.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2925.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1028	1028	1028	1028	1028	
5°	1023	1025	1020	1026	1027	97
15°	978	981	983	991	993	276
25°	889	897	906	921	924	410
35°	768	778	796	816	821	479
45°	620	635	662	688	693	478
55°	462	482	518	544	550	414
65°	304	327	369	400	407	302
75°	154	184	231	263	270	163
85°	32	58	72	71	71	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1027.6	1027.6	1027.6	1027.6	1027.6
2.5°	1028.5	1028.5	1023.9	1028.5	1029.4
5°	1022.9	1024.8	1020.1	1025.7	1026.6
7.5°	1017.4	1017.4	1014.6	1020.1	1021.1
10°	1007.1	1008.1	1007.1	1013.6	1014.6
12.5°	994.1	996.0	996.9	1003.4	1004.3
15°	978.3	981.1	983.0	991.3	993.2
17.5°	960.7	963.5	968.1	977.4	979.3
20°	939.3	943.0	948.6	960.7	963.5
22.5°	916.1	919.8	929.1	940.2	944.9
25°	889.1	896.6	905.9	920.7	923.5
27.5°	862.2	868.7	880.8	896.6	900.3
30°	830.6	840.8	855.7	871.5	875.2
32.5°	799.9	810.2	827.8	844.5	849.2
35°	768.4	777.6	796.2	815.7	821.3
37.5°	732.1	744.2	764.6	784.2	789.7
40°	694.0	708.9	732.1	752.6	759.1
42.5°	657.8	673.6	696.8	719.1	726.5
45°	619.7	634.6	662.4	687.5	693.1
47.5°	580.7	597.4	627.1	652.2	661.5
50°	541.7	559.3	590.9	616.9	622.5
52.5°	502.6	521.2	554.7	582.5	585.3
55°	461.8	482.2	517.5	544.4	550.0
57.5°	424.6	442.2	480.3	508.2	514.7
60°	383.7	403.2	444.1	470.1	478.5
62.5°	344.7	365.1	407.9	433.9	441.3
65°	303.8	327.0	368.8	399.5	406.9
67.5°	268.5	290.8	335.4	365.1	372.6
70°	227.6	252.7	300.1	330.8	338.2
72.5°	192.3	218.3	265.7	295.5	306.6
75°	154.2	184.0	231.3	262.9	270.4
77.5°	117.1	151.4	199.8	223.9	223.9
80°	83.6	119.9	164.4	175.6	177.5
82.5°	54.8	90.1	121.7	120.8	120.8
85°	31.6	58.5	72.5	70.6	70.6
87.5°	12.1	24.2	26.0	26.0	25.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)