

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: P313811

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-CP250-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: P313811
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: 24FCZ2-30HE-UNV-L83050-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 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: 2605.0 lumens
Efficiency: N/A
Efficacy: 123.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

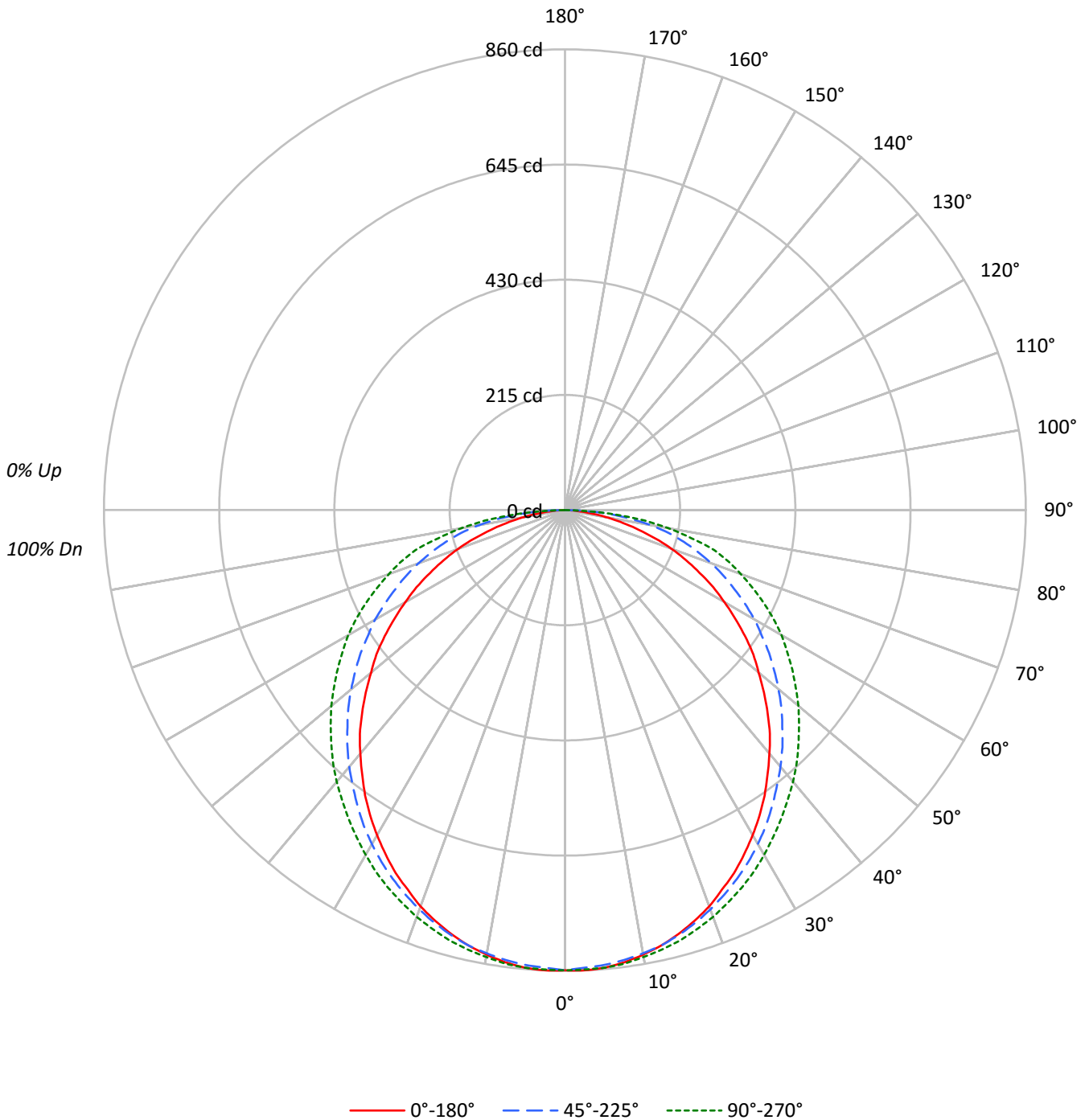
Input Watts (W): 21.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1156	1156	1156
5°	1158	1151	1158
10°	1151	1148	1157
15°	1141	1144	1158
20°	1127	1136	1157
25°	1110	1128	1156
30°	1089	1119	1155
35°	1067	1107	1156
40°	1043	1099	1163
45°	1018	1092	1173
50°	988	1089	1190
55°	963	1091	1214
60°	926	1100	1256
65°	883	1112	1301
70°	836	1146	1374
75°	746	1195	1501
80°	636	1266	1533
85°	454	1254	1468



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.3	3.1
10°-20°	232.5	8.9
20°-30°	351.1	13.5
30°-40°	423.2	16.2
40°-50°	444.3	17.1
50°-60°	415.7	16.0
60°-70°	343.3	13.2
70°-80°	233.9	9.0
80°-90°	79.8	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°	664.9	25.5
0°-40°	1088.1	41.8
0°-60°	1948.1	74.8
0°-90°	2605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2605.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	859	859	859	859	859	
5°	857	856	852	857	857	81
15°	819	820	821	830	831	231
25°	748	751	760	774	779	344
35°	650	657	674	697	704	406
45°	535	546	574	605	616	413
55°	410	427	465	503	518	366
65°	277	301	349	393	409	275
75°	144	176	230	273	289	153
85°	29	58	81	92	95	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	859.1	859.1	859.1	859.1	859.1
2.5°	860.0	859.1	854.8	859.1	858.2
5°	857.4	856.5	852.2	857.4	857.4
7.5°	851.3	851.3	847.0	853.1	853.9
10°	842.7	842.7	840.1	847.0	847.0
12.5°	832.3	832.3	832.3	839.2	840.1
15°	819.3	820.2	821.1	829.7	831.4
17.5°	803.8	805.5	808.1	818.5	820.2
20°	787.4	789.1	793.4	805.5	808.1
22.5°	766.6	770.9	777.0	790.8	793.4
25°	747.6	751.1	759.7	774.4	778.7
27.5°	724.3	729.5	740.7	756.3	762.3
30°	700.9	706.1	720.0	738.1	743.3
32.5°	675.9	683.7	698.3	717.4	723.4
35°	649.9	656.9	674.1	696.6	703.5
37.5°	621.4	630.9	649.9	674.1	682.8
40°	593.8	604.1	625.7	651.7	662.0
42.5°	566.1	576.5	600.7	630.1	640.4
45°	535.0	546.2	573.9	605.0	616.2
47.5°	503.9	517.7	548.0	580.8	592.9
50°	471.9	487.5	520.3	554.9	568.7
52.5°	443.4	458.1	492.6	529.8	542.8
55°	410.5	427.0	465.0	503.0	517.7
57.5°	376.8	395.0	435.6	477.1	491.8
60°	344.0	363.9	408.8	450.3	466.7
62.5°	312.0	331.9	378.6	421.8	438.2
65°	277.4	300.8	349.2	393.3	408.8
67.5°	244.6	269.7	320.7	363.9	379.4
70°	212.6	236.8	291.3	333.6	349.2
72.5°	178.0	205.7	260.2	304.2	320.7
75°	143.5	176.3	229.9	273.1	288.7
77.5°	111.5	145.2	198.8	234.2	242.0
80°	82.1	116.7	163.4	188.4	197.9
82.5°	52.7	87.3	124.5	142.6	150.4
85°	29.4	57.9	81.2	91.6	95.1
87.5°	12.1	25.1	32.8	37.2	37.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)