

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: P314230

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-3000K**

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: P314230
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: 24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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: 2989.0 lumens
Efficiency: N/A
Efficacy: 115.4 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

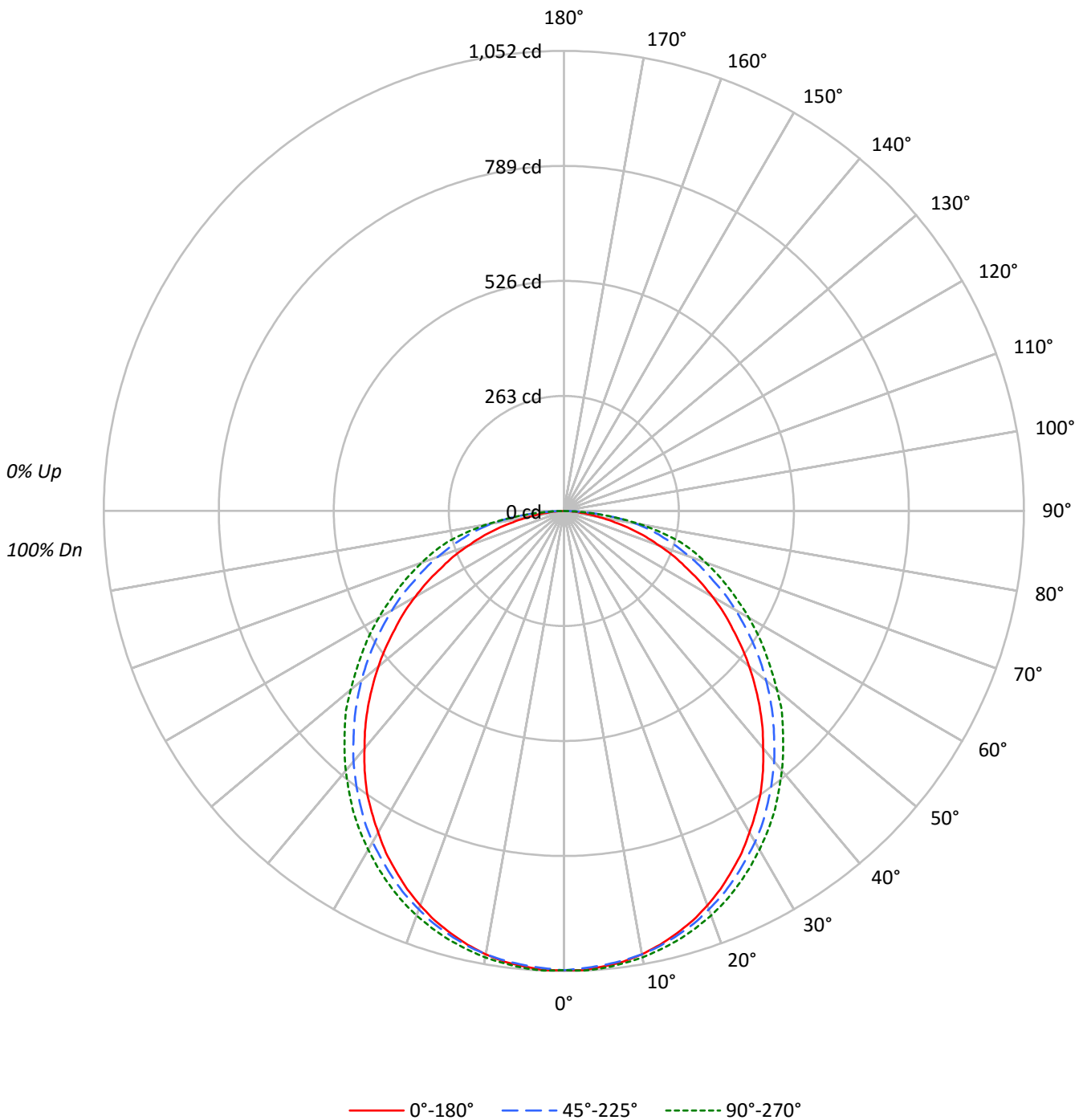
Input Watts (W): 25.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1413	1413	1413
5°	1412	1408	1417
10°	1406	1406	1417
15°	1393	1399	1414
20°	1374	1388	1410
25°	1349	1374	1401
30°	1319	1359	1390
35°	1290	1337	1379
40°	1246	1314	1362
45°	1205	1288	1348
50°	1159	1264	1331
55°	1107	1240	1319
60°	1055	1221	1316
65°	989	1200	1324
70°	915	1207	1360
75°	819	1229	1436
80°	662	1302	1405
85°	499	1144	1115



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.4	3.3
10°-20°	284.0	9.5
20°-30°	427.0	14.3
30°-40°	508.6	17.0
40°-50°	520.5	17.4
50°-60°	468.6	15.7
60°-70°	368.0	12.3
70°-80°	238.9	8.0
80°-90°	73.9	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°	810.4	27.1
0°-40°	1319.1	44.1
0°-60°	2308.2	77.2
0°-90°	2989.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2989.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1050	1050	1050	1050	1050	
5°	1045	1047	1042	1048	1049	99
15°	1000	1003	1004	1013	1015	282
25°	909	916	926	941	944	419
35°	785	795	814	834	839	490
45°	633	648	677	703	708	488
55°	472	493	529	556	562	423
65°	310	334	377	408	416	309
75°	158	188	236	269	276	167
85°	32	60	74	72	72	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1050.1	1050.1	1050.1	1050.1	1050.1
2.5°	1051.0	1051.0	1046.3	1051.0	1052.0
5°	1045.3	1047.2	1042.5	1048.2	1049.1
7.5°	1039.6	1039.6	1036.8	1042.5	1043.4
10°	1029.2	1030.1	1029.2	1035.8	1036.8
12.5°	1015.9	1017.8	1018.7	1025.4	1026.3
15°	999.7	1002.6	1004.5	1013.0	1014.9
17.5°	981.7	984.5	989.3	998.8	1000.7
20°	959.9	963.7	969.4	981.7	984.5
22.5°	936.1	939.9	949.4	960.8	965.6
25°	908.6	916.2	925.7	940.9	943.7
27.5°	881.1	887.7	900.0	916.2	920.0
30°	848.8	859.2	874.4	890.6	894.4
32.5°	817.4	827.9	845.9	863.0	867.8
35°	785.2	794.7	813.7	833.6	839.3
37.5°	748.1	760.5	781.4	801.3	807.0
40°	709.2	724.4	748.1	769.0	775.7
42.5°	672.2	688.3	712.1	734.8	742.4
45°	633.3	648.5	676.9	702.6	708.3
47.5°	593.4	610.5	640.9	666.5	676.0
50°	553.5	571.5	603.8	630.4	636.1
52.5°	513.6	532.6	566.8	595.3	598.1
55°	471.9	492.7	528.8	556.4	562.1
57.5°	433.9	451.9	490.8	519.3	526.0
60°	392.1	412.0	453.8	480.4	488.9
62.5°	352.2	373.1	416.8	443.4	451.0
65°	310.5	334.2	376.9	408.2	415.8
67.5°	274.4	297.2	342.7	373.1	380.7
70°	232.6	258.2	306.7	338.0	345.6
72.5°	196.5	223.1	271.5	301.9	313.3
75°	157.6	188.0	236.4	268.7	276.3
77.5°	119.6	154.8	204.1	228.8	228.8
80°	85.4	122.5	168.0	179.4	181.3
82.5°	56.0	92.1	124.4	123.4	123.4
85°	32.3	59.8	74.1	72.2	72.2
87.5°	12.3	24.7	26.6	26.6	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)