

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: P310582

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-CA08-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: P310582
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: 24FCZ2-35HE-UNV-L82765-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 3142.0 lumens
Efficiency: N/A
Efficacy: 120.4 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

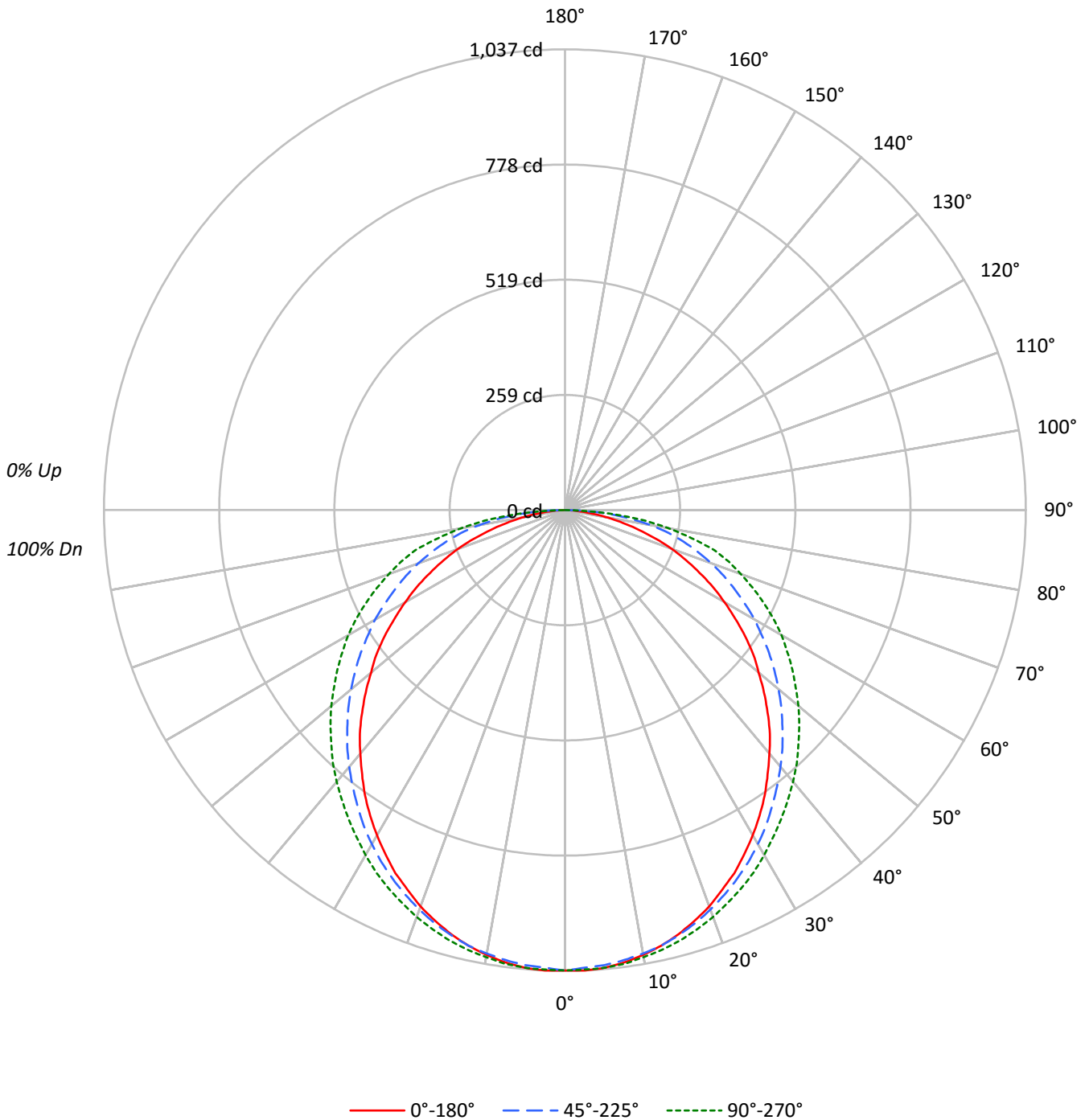
Input Watts (W): 26.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1394	1394	1394
5°	1397	1388	1397
10°	1389	1384	1396
15°	1377	1379	1397
20°	1360	1370	1396
25°	1339	1360	1394
30°	1313	1349	1393
35°	1288	1336	1394
40°	1258	1326	1402
45°	1228	1317	1414
50°	1191	1314	1436
55°	1162	1316	1465
60°	1116	1327	1515
65°	1065	1341	1570
70°	1009	1382	1657
75°	899	1442	1810
80°	767	1526	1850
85°	546	1513	1771



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.1	3.1
10°-20°	280.4	8.9
20°-30°	423.5	13.5
30°-40°	510.4	16.2
40°-50°	535.9	17.1
50°-60°	501.3	16.0
60°-70°	414.0	13.2
70°-80°	282.1	9.0
80°-90°	96.2	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°	802.0	25.5
0°-40°	1312.4	41.8
0°-60°	2349.6	74.8
0°-90°	3142.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3142.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1036	1036	1036	1036	1036	
5°	1034	1033	1028	1034	1034	98
15°	988	989	990	1001	1003	279
25°	902	906	916	934	939	415
35°	784	792	813	840	849	490
45°	645	659	692	730	743	498
55°	495	515	561	607	624	442
65°	335	363	421	474	493	332
75°	173	213	277	329	348	184
85°	35	70	98	110	115	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1036.2	1036.2	1036.2	1036.2	1036.2
2.5°	1037.2	1036.2	1031.0	1036.2	1035.2
5°	1034.1	1033.1	1027.9	1034.1	1034.1
7.5°	1026.8	1026.8	1021.6	1028.9	1029.9
10°	1016.4	1016.4	1013.3	1021.6	1021.6
12.5°	1003.9	1003.9	1003.9	1012.2	1013.3
15°	988.3	989.3	990.3	1000.8	1002.8
17.5°	969.5	971.6	974.7	987.2	989.3
20°	949.7	951.8	957.0	971.6	974.7
22.5°	924.7	929.9	937.2	953.9	957.0
25°	901.7	905.9	916.3	934.0	939.3
27.5°	873.6	879.8	893.4	912.2	919.4
30°	845.4	851.7	868.4	890.3	896.5
32.5°	815.2	824.6	842.3	865.2	872.5
35°	783.9	792.3	813.1	840.2	848.6
37.5°	749.5	761.0	783.9	813.1	823.5
40°	716.2	728.7	754.7	786.0	798.5
42.5°	682.8	695.3	724.5	760.0	772.5
45°	645.3	658.8	692.2	729.7	743.3
47.5°	607.8	624.4	660.9	700.5	715.1
50°	569.2	587.9	627.6	669.3	685.9
52.5°	534.8	552.5	594.2	639.0	654.7
55°	495.2	515.0	560.8	606.7	624.4
57.5°	454.5	476.4	525.4	575.4	593.2
60°	414.9	438.9	493.1	543.1	562.9
62.5°	376.3	400.3	456.6	508.7	528.5
65°	334.6	362.8	421.2	474.3	493.1
67.5°	295.0	325.2	386.8	438.9	457.6
70°	256.4	285.6	351.3	402.4	421.2
72.5°	214.7	248.1	313.8	366.9	386.8
75°	173.0	212.7	277.3	329.4	348.2
77.5°	134.5	175.1	239.8	282.5	291.9
80°	99.0	140.7	197.0	227.3	238.7
82.5°	63.6	105.3	150.1	172.0	181.4
85°	35.4	69.8	98.0	110.5	114.7
87.5°	14.6	30.2	39.6	44.8	44.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)