

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: P310615

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-CP187-W2A-U-6500K**

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: P310615
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-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 6500K 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: 3147.0 lumens
Efficiency: N/A
Efficacy: 115.7 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

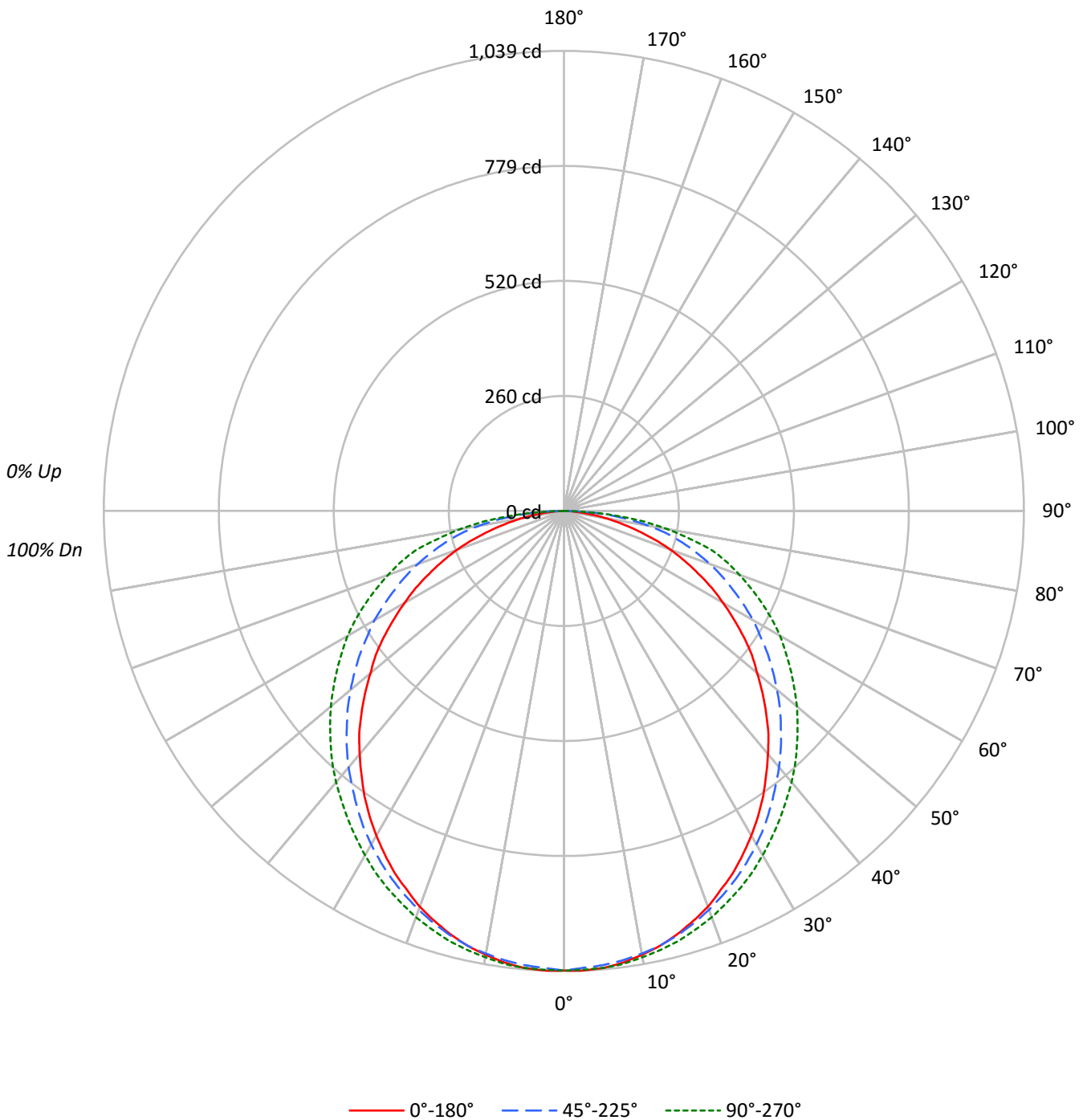
Input Watts (W): 27.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1396	1396	1396
5°	1399	1390	1399
10°	1391	1387	1398
15°	1379	1382	1399
20°	1362	1372	1398
25°	1341	1363	1397
30°	1316	1351	1395
35°	1290	1338	1396
40°	1260	1328	1405
45°	1230	1319	1417
50°	1193	1316	1438
55°	1164	1318	1467
60°	1118	1329	1517
65°	1067	1343	1572
70°	1011	1384	1659
75°	901	1444	1813
80°	769	1529	1853
85°	548	1514	1774



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.2	3.1
10°-20°	280.9	8.9
20°-30°	424.2	13.5
30°-40°	511.3	16.2
40°-50°	536.7	17.1
50°-60°	502.1	16.0
60°-70°	414.7	13.2
70°-80°	282.6	9.0
80°-90°	96.4	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°	803.3	25.5
0°-40°	1314.5	41.8
0°-60°	2353.4	74.8
0°-90°	3147.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3147.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1038	1038	1038	1038	1038	
5°	1036	1035	1030	1036	1036	98
15°	990	991	992	1002	1004	279
25°	903	907	918	936	941	416
35°	785	794	814	842	850	491
45°	646	660	693	731	744	498
55°	496	516	562	608	625	443
65°	335	363	422	475	494	332
75°	173	213	278	330	349	185
85°	36	70	98	111	115	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1037.9	1037.9	1037.9	1037.9	1037.9
2.5°	1038.9	1037.9	1032.6	1037.9	1036.8
5°	1035.8	1034.7	1029.5	1035.8	1035.8
7.5°	1028.5	1028.5	1023.2	1030.5	1031.6
10°	1018.0	1018.0	1014.9	1023.2	1023.2
12.5°	1005.5	1005.5	1005.5	1013.8	1014.9
15°	989.8	990.9	991.9	1002.4	1004.4
17.5°	971.0	973.1	976.3	988.8	990.9
20°	951.2	953.3	958.5	973.1	976.3
22.5°	926.1	931.4	938.7	955.4	958.5
25°	903.2	907.3	917.8	935.5	940.8
27.5°	875.0	881.2	894.8	913.6	920.9
30°	846.8	853.0	869.8	891.7	897.9
32.5°	816.5	825.9	843.6	866.6	873.9
35°	785.2	793.5	814.4	841.6	849.9
37.5°	750.7	762.2	785.2	814.4	824.9
40°	717.3	729.8	755.9	787.3	799.8
42.5°	683.9	696.4	725.7	761.2	773.7
45°	646.3	659.9	693.3	730.9	744.5
47.5°	608.7	625.4	662.0	701.6	716.3
50°	570.1	588.9	628.6	670.3	687.0
52.5°	535.6	553.4	595.1	640.0	655.7
55°	496.0	515.8	561.7	607.7	625.4
57.5°	455.2	477.2	526.2	576.4	594.1
60°	415.6	439.6	493.9	544.0	563.8
62.5°	376.9	400.9	457.3	509.5	529.4
65°	335.2	363.4	421.8	475.1	493.9
67.5°	295.5	325.8	387.4	439.6	458.4
70°	256.9	286.1	351.9	403.0	421.8
72.5°	215.1	248.5	314.3	367.5	387.4
75°	173.3	213.0	277.7	329.9	348.7
77.5°	134.7	175.4	240.1	283.0	292.4
80°	99.2	141.0	197.3	227.6	239.1
82.5°	63.7	105.5	150.4	172.3	181.7
85°	35.5	70.0	98.1	110.7	114.9
87.5°	14.6	30.3	39.7	44.9	44.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)