

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: P310592

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-CA125-W2A-U-4000K**

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: P310592
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-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 4000K 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: 3200.0 lumens
Efficiency: N/A
Efficacy: 121.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

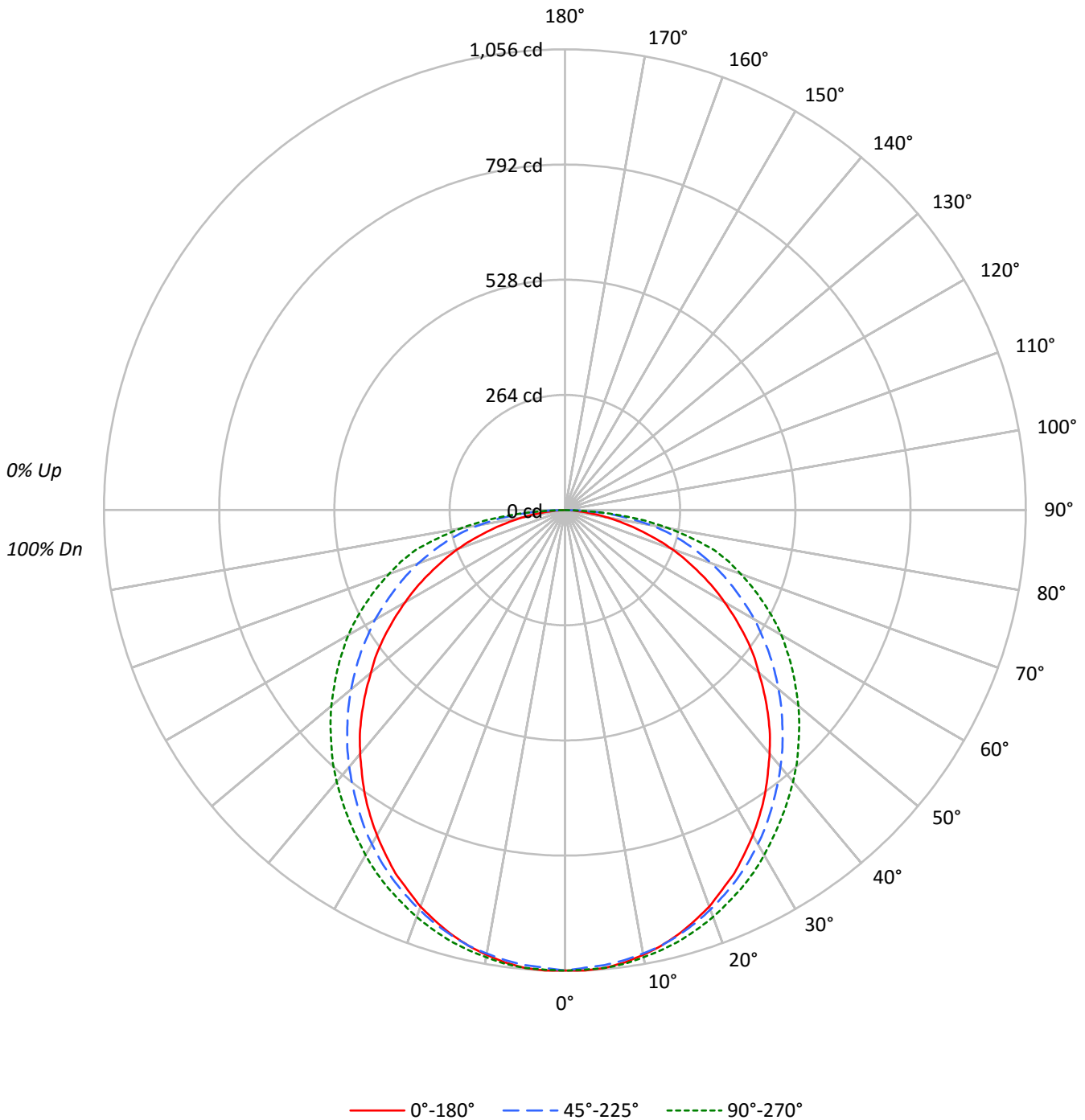
Input Watts (W): 26.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1420	1420	1420
5°	1422	1414	1422
10°	1414	1410	1422
15°	1402	1405	1423
20°	1385	1395	1421
25°	1363	1385	1420
30°	1338	1374	1419
35°	1311	1360	1419
40°	1281	1350	1428
45°	1251	1341	1440
50°	1213	1338	1462
55°	1183	1340	1492
60°	1137	1351	1543
65°	1085	1365	1599
70°	1028	1408	1687
75°	916	1468	1843
80°	782	1555	1884
85°	557	1541	1803



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.9	3.1
10°-20°	285.6	8.9
20°-30°	431.3	13.5
30°-40°	519.9	16.2
40°-50°	545.8	17.1
50°-60°	510.6	16.0
60°-70°	421.7	13.2
70°-80°	287.3	9.0
80°-90°	98.0	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°	816.8	25.5
0°-40°	1336.7	41.8
0°-60°	2393.0	74.8
0°-90°	3200.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3200.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1055	1055	1055	1055	1055	
5°	1053	1052	1047	1053	1053	100
15°	1006	1008	1009	1019	1021	284
25°	918	923	933	951	957	423
35°	798	807	828	856	864	499
45°	657	671	705	743	757	507
55°	504	524	571	618	636	450
65°	341	370	429	483	502	338
75°	176	217	282	336	355	188
85°	36	71	100	112	117	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1055.3	1055.3	1055.3	1055.3	1055.3
2.5°	1056.4	1055.3	1050.0	1055.3	1054.3
5°	1053.2	1052.1	1046.8	1053.2	1053.2
7.5°	1045.8	1045.8	1040.5	1047.9	1049.0
10°	1035.2	1035.2	1032.0	1040.5	1040.5
12.5°	1022.4	1022.4	1022.4	1030.9	1032.0
15°	1006.5	1007.6	1008.6	1019.2	1021.4
17.5°	987.4	989.5	992.7	1005.4	1007.6
20°	967.2	969.3	974.6	989.5	992.7
22.5°	941.7	947.0	954.5	971.5	974.6
25°	918.4	922.6	933.2	951.3	956.6
27.5°	889.7	896.1	909.9	929.0	936.4
30°	861.0	867.4	884.4	906.7	913.1
32.5°	830.3	839.8	857.9	881.2	888.6
35°	798.4	806.9	828.1	855.7	864.2
37.5°	763.4	775.0	798.4	828.1	838.7
40°	729.4	742.1	768.7	800.5	813.3
42.5°	695.4	708.2	737.9	774.0	786.7
45°	657.2	671.0	705.0	743.2	757.0
47.5°	619.0	636.0	673.1	713.5	728.3
50°	579.7	598.8	639.1	681.6	698.6
52.5°	544.7	562.7	605.2	650.8	666.7
55°	504.3	524.5	571.2	617.9	636.0
57.5°	462.9	485.2	535.1	586.1	604.1
60°	422.6	447.0	502.2	553.1	573.3
62.5°	383.3	407.7	465.0	518.1	538.3
65°	340.8	369.5	428.9	483.1	502.2
67.5°	300.5	331.3	393.9	447.0	466.1
70°	261.2	290.9	357.8	409.8	428.9
72.5°	218.7	252.7	319.6	373.7	393.9
75°	176.2	216.6	282.4	335.5	354.6
77.5°	137.0	178.4	244.2	287.7	297.3
80°	100.9	143.3	200.7	231.5	243.1
82.5°	64.8	107.2	152.9	175.2	184.7
85°	36.1	71.1	99.8	112.5	116.8
87.5°	14.9	30.8	40.3	45.7	45.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)