

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: P310610

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-CP187-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: P310610
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-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB 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: 3005.0 lumens
Efficiency: N/A
Efficacy: 114.3 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

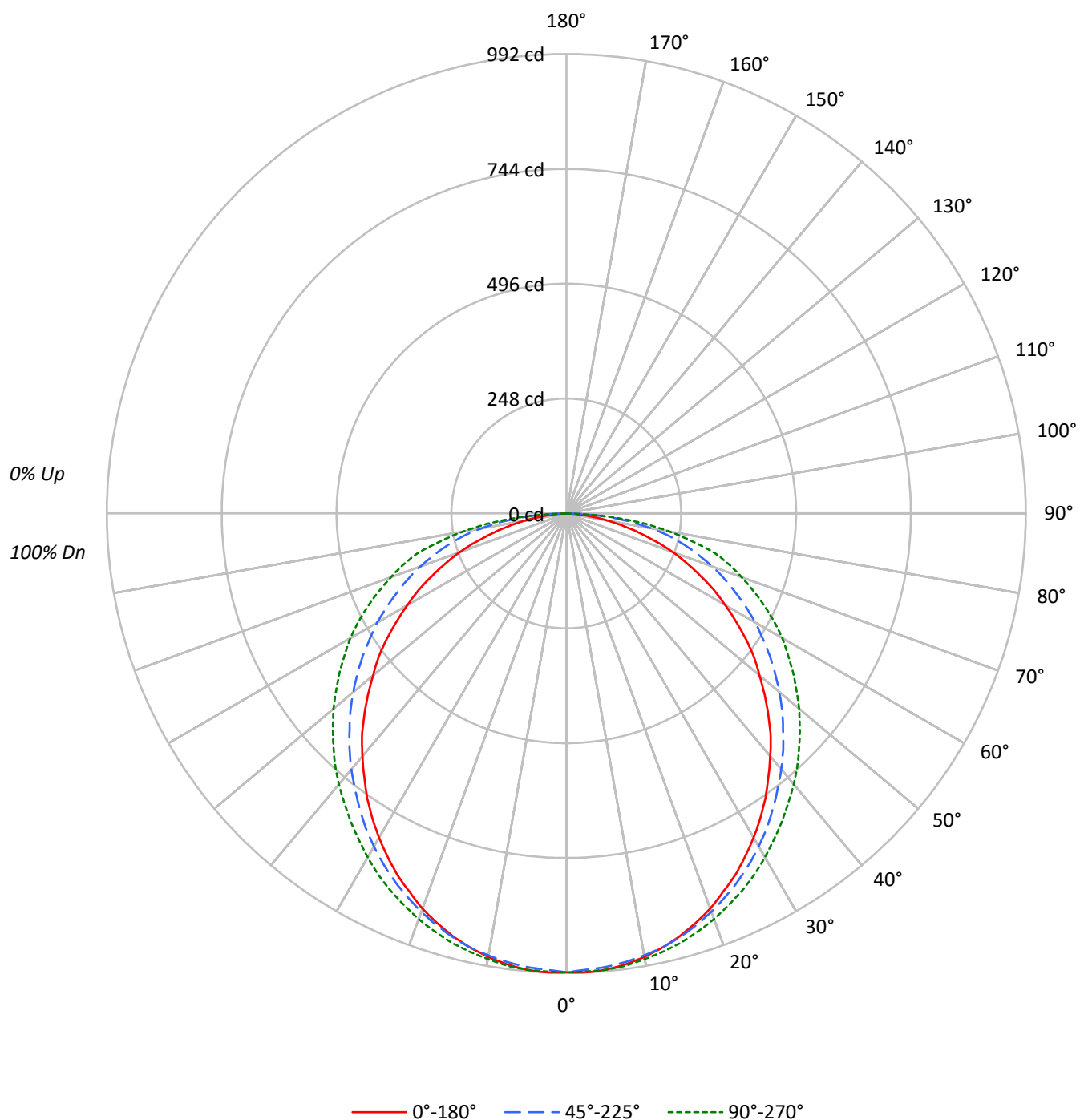
Input Watts (W): 26.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1333	1333	1333
5°	1336	1328	1336
10°	1328	1324	1335
15°	1317	1319	1336
20°	1301	1311	1335
25°	1280	1301	1334
30°	1256	1290	1332
35°	1231	1277	1333
40°	1203	1268	1341
45°	1174	1260	1353
50°	1140	1256	1373
55°	1111	1258	1401
60°	1068	1269	1449
65°	1019	1282	1501
70°	965	1322	1585
75°	860	1379	1731
80°	734	1460	1769
85°	523	1447	1694



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.8	3.1
10°-20°	268.2	8.9
20°-30°	405.1	13.5
30°-40°	488.2	16.2
40°-50°	512.5	17.1
50°-60°	479.5	16.0
60°-70°	396.0	13.2
70°-80°	269.8	9.0
80°-90°	92.0	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°	767.0	25.5
0°-40°	1255.2	41.8
0°-60°	2247.2	74.8
0°-90°	3005.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3005.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	991	991	991	991	991	
5°	989	988	983	989	989	94
15°	945	946	947	957	959	266
25°	862	866	876	893	898	397
35°	750	758	778	804	812	469
45°	617	630	662	698	711	476
55°	474	492	536	580	597	423
65°	320	347	403	454	472	317
75°	166	203	265	315	333	176
85°	34	67	94	106	110	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	991.0	991.0	991.0	991.0	991.0
2.5°	992.0	991.0	986.0	991.0	990.0
5°	989.0	988.0	983.0	989.0	989.0
7.5°	982.0	982.0	977.1	984.0	985.0
10°	972.1	972.1	969.1	977.1	977.1
12.5°	960.1	960.1	960.1	968.1	969.1
15°	945.2	946.2	947.2	957.1	959.1
17.5°	927.2	929.2	932.2	944.2	946.2
20°	908.3	910.3	915.3	929.2	932.2
22.5°	884.3	889.3	896.3	912.3	915.3
25°	862.4	866.4	876.4	893.3	898.3
27.5°	835.5	841.5	854.4	872.4	879.4
30°	808.6	814.6	830.5	851.4	857.4
32.5°	779.7	788.6	805.6	827.5	834.5
35°	749.7	757.7	777.7	803.6	811.6
37.5°	716.8	727.8	749.7	777.7	787.6
40°	684.9	696.9	721.8	751.7	763.7
42.5°	653.0	665.0	692.9	726.8	738.8
45°	617.1	630.1	662.0	697.9	710.9
47.5°	581.3	597.2	632.1	670.0	683.9
50°	544.4	562.3	600.2	640.1	656.0
52.5°	511.5	528.4	568.3	611.2	626.1
55°	473.6	492.5	536.4	580.3	597.2
57.5°	434.7	455.6	502.5	550.3	567.3
60°	396.8	419.7	471.6	519.4	538.4
62.5°	359.9	382.8	436.7	486.5	505.5
65°	320.0	347.0	402.8	453.6	471.6
67.5°	282.2	311.1	369.9	419.7	437.7
70°	245.3	273.2	336.0	384.8	402.8
72.5°	205.4	237.3	300.1	350.9	369.9
75°	165.5	203.4	265.2	315.1	333.0
77.5°	128.6	167.5	229.3	270.2	279.2
80°	94.7	134.6	188.4	217.3	228.3
82.5°	60.8	100.7	143.6	164.5	173.5
85°	33.9	66.8	93.7	105.7	109.7
87.5°	14.0	28.9	37.9	42.9	42.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)