

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: P310613

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-CP187-W2A-U-5500K**

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: P310613
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-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 3130.0 lumens
Efficiency: N/A
Efficacy: 117.2 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

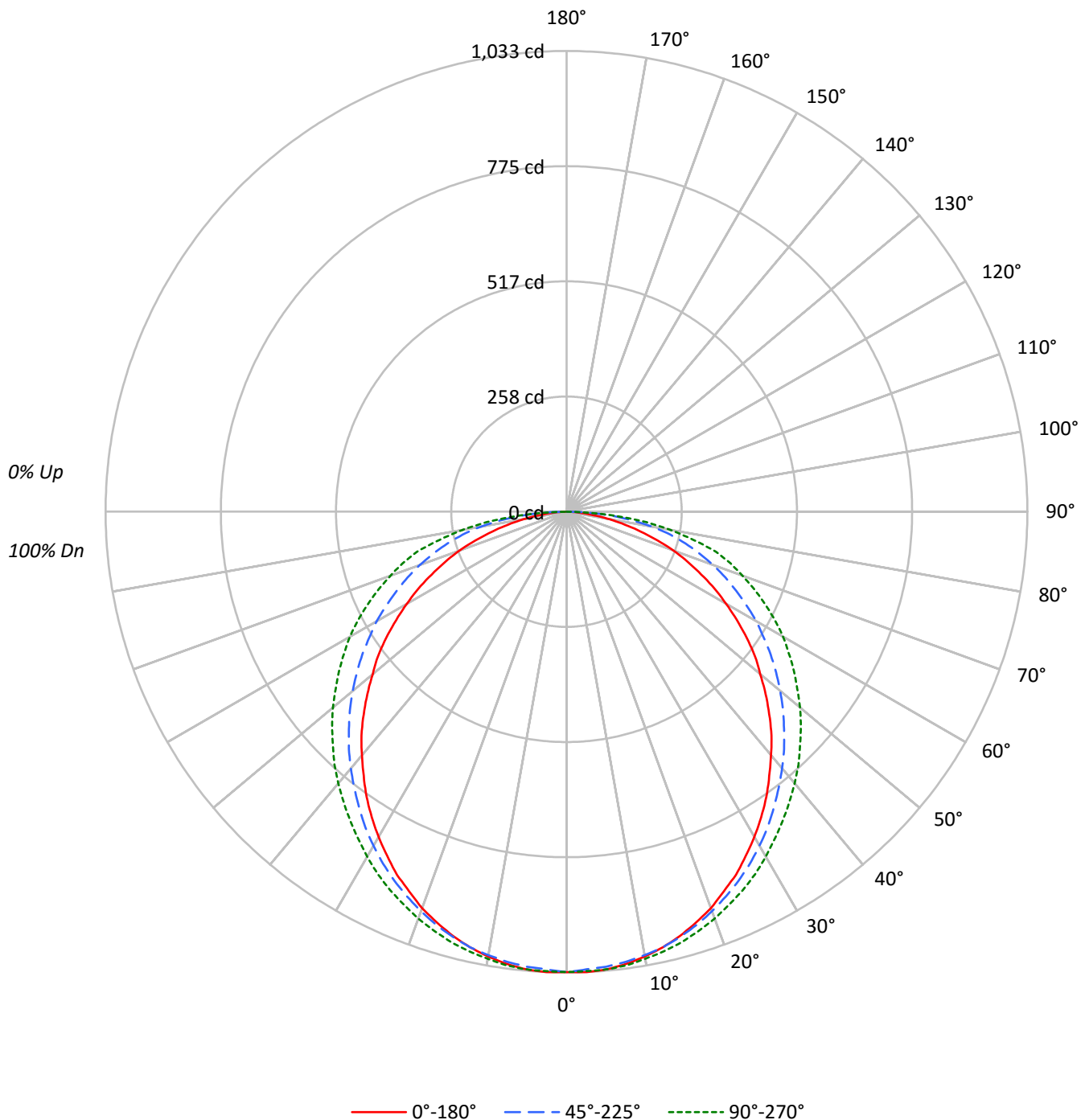
Input Watts (W): 26.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10
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°	1389	1389	1389
5°	1391	1383	1391
10°	1383	1379	1390
15°	1371	1374	1392
20°	1355	1365	1390
25°	1334	1355	1389
30°	1308	1344	1388
35°	1283	1330	1388
40°	1253	1321	1397
45°	1223	1312	1409
50°	1187	1309	1430
55°	1157	1311	1459
60°	1112	1322	1509
65°	1061	1336	1564
70°	1005	1377	1650
75°	896	1436	1803
80°	765	1521	1843
85°	545	1507	1763



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.7	3.1
10°-20°	279.3	8.9
20°-30°	421.9	13.5
30°-40°	508.5	16.2
40°-50°	533.8	17.1
50°-60°	499.4	16.0
60°-70°	412.4	13.2
70°-80°	281.0	9.0
80°-90°	95.8	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°	798.9	25.5
0°-40°	1307.4	41.8
0°-60°	2340.7	74.8
0°-90°	3130.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3130.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1032	1032	1032	1032	1032	
5°	1030	1029	1024	1030	1030	98
15°	984	986	987	997	999	278
25°	898	902	913	930	936	413
35°	781	789	810	837	845	488
45°	643	656	690	727	740	496
55°	493	513	559	604	622	440
65°	333	361	420	472	491	331
75°	172	212	276	328	347	184
85°	35	70	98	110	114	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1032.2	1032.2	1032.2	1032.2	1032.2
2.5°	1033.3	1032.2	1027.1	1032.2	1031.2
5°	1030.2	1029.1	1023.9	1030.2	1030.2
7.5°	1022.9	1022.9	1017.7	1025.0	1026.0
10°	1012.5	1012.5	1009.4	1017.7	1017.7
12.5°	1000.1	1000.1	1000.1	1008.4	1009.4
15°	984.5	985.5	986.6	996.9	999.0
17.5°	965.8	967.9	971.0	983.4	985.5
20°	946.1	948.1	953.3	967.9	971.0
22.5°	921.1	926.3	933.6	950.2	953.3
25°	898.3	902.4	912.8	930.5	935.7
27.5°	870.2	876.5	890.0	908.7	915.9
30°	842.2	848.4	865.1	886.9	893.1
32.5°	812.1	821.4	839.1	861.9	869.2
35°	780.9	789.2	810.0	837.0	845.3
37.5°	746.7	758.1	780.9	810.0	820.4
40°	713.4	725.9	751.9	783.0	795.5
42.5°	680.2	692.7	721.7	757.1	769.5
45°	642.8	656.3	689.5	726.9	740.4
47.5°	605.4	622.0	658.4	697.9	712.4
50°	567.0	585.7	625.2	666.7	683.3
52.5°	532.7	550.4	591.9	636.6	652.2
55°	493.3	513.0	558.7	604.4	622.0
57.5°	452.8	474.6	523.4	573.2	590.9
60°	413.3	437.2	491.2	541.0	560.8
62.5°	374.9	398.8	454.9	506.8	526.5
65°	333.4	361.4	419.5	472.5	491.2
67.5°	293.9	324.0	385.3	437.2	455.9
70°	255.5	284.5	350.0	400.9	419.5
72.5°	213.9	247.2	312.6	365.5	385.3
75°	172.4	211.8	276.2	328.2	346.9
77.5°	134.0	174.5	238.8	281.4	290.8
80°	98.7	140.2	196.3	226.4	237.8
82.5°	63.3	104.9	149.5	171.3	180.7
85°	35.3	69.6	97.6	110.1	114.2
87.5°	14.5	30.1	39.5	44.7	44.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)