

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: P312793

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-CA08-W2A-U-4500K**

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: P312793  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22FCZ2-29HE-UNV-L83050-CA08-W2A-U-4500K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 4500K 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**

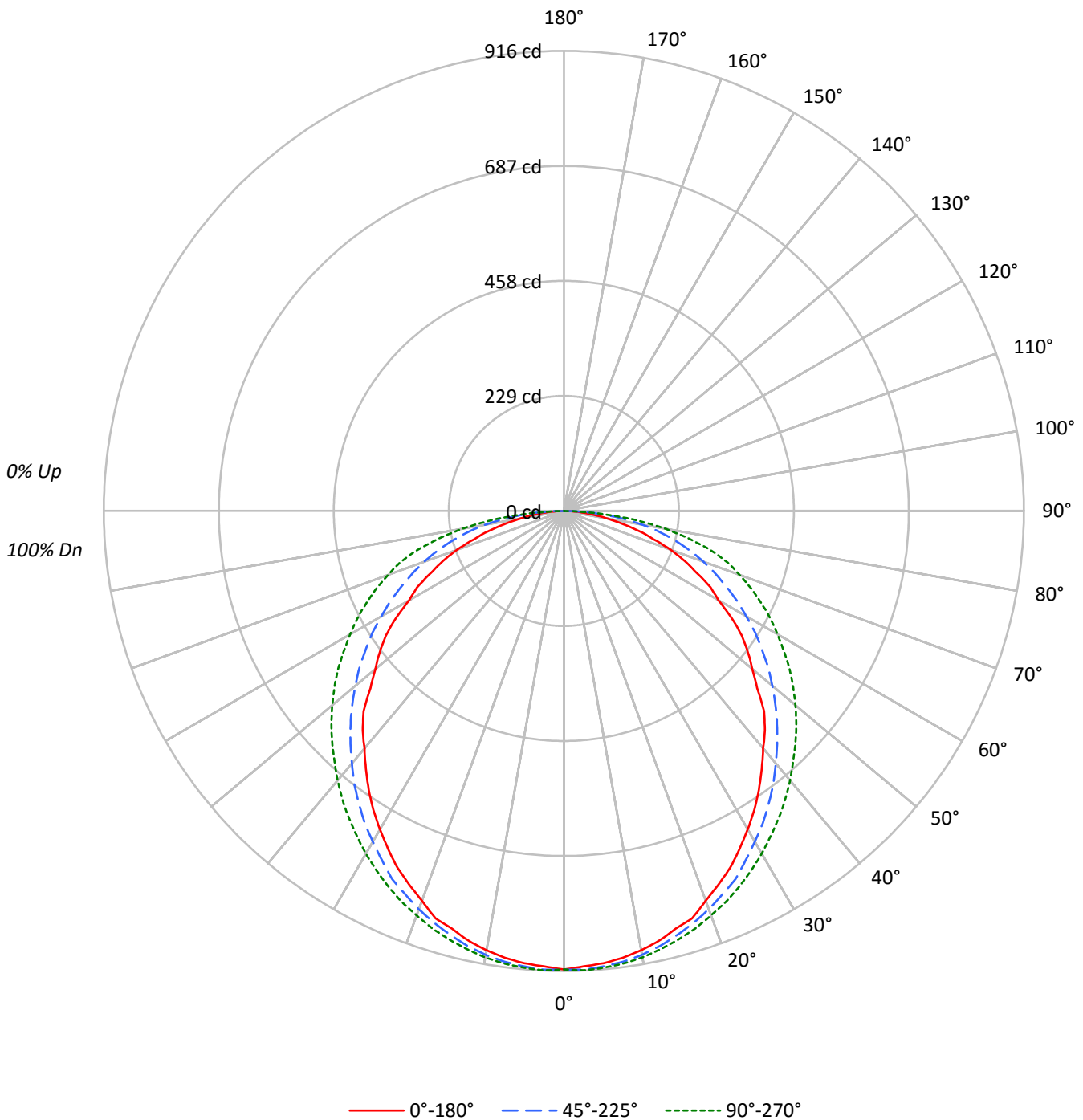
Lumens per Lamp: N/A  
Luminaire Lumens: 2721.0 lumens  
Efficiency: N/A  
Efficacy: 115.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2457	2457	2457
5°	2441	2459	2466
10°	2427	2452	2466
15°	2398	2434	2460
20°	2365	2417	2454
25°	2328	2401	2452
30°	2274	2363	2448
35°	2225	2336	2451
40°	2168	2306	2461
45°	2146	2285	2483
50°	2050	2268	2519
55°	2029	2261	2572
60°	1913	2257	2643
65°	1857	2272	2762
70°	1783	2326	2931
75°	1625	2397	3154
80°	1393	2483	3189
85°	1127	2371	2736



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.4	3.2
10°-20°	246.4	9.1
20°-30°	370.9	13.6
30°-40°	445.1	16.4
40°-50°	465.3	17.1
50°-60°	433.6	15.9
60°-70°	355.6	13.1
70°-80°	239.6	8.8
80°-90°	78.1	2.9
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°	703.7	25.9
0°-40°	1148.9	42.2
0°-60°	2047.7	75.3
0°-90°	2721.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2721.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	913	913	913	913	913	
5°	904	906	910	912	913	86
15°	861	866	874	882	883	243
25°	784	789	809	820	826	360
35°	677	686	711	736	746	423
45°	564	568	600	637	652	431
55°	432	440	482	527	548	383
65°	292	305	357	409	434	290
75°	156	173	230	283	303	164
85°	36	52	77	90	89	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	912.9	912.9	912.9	912.9	912.9
2.5°	907.7	910.3	914.2	915.5	915.5
5°	903.8	906.4	910.3	911.6	912.9
7.5°	897.3	899.9	905.1	907.7	909.0
10°	888.2	890.8	897.3	901.2	902.5
12.5°	876.5	879.1	886.9	892.1	893.4
15°	860.8	866.0	873.8	881.7	883.0
17.5°	850.4	849.1	859.5	868.6	871.2
20°	825.7	832.2	843.9	854.3	856.9
22.5°	804.8	810.0	825.7	837.4	842.6
25°	784.0	789.2	808.7	820.5	825.7
27.5°	757.9	765.8	784.0	800.9	807.4
30°	731.9	739.7	760.5	780.1	787.9
32.5°	705.9	715.0	737.1	757.9	767.1
35°	677.2	686.3	711.1	735.8	746.2
37.5°	647.2	659.0	685.0	712.4	724.1
40°	617.3	629.0	656.4	687.6	700.6
42.5°	592.6	597.8	629.0	662.9	675.9
45°	563.9	567.8	600.4	636.8	652.5
47.5°	522.2	536.6	571.7	612.1	627.7
50°	489.7	505.3	541.8	584.7	601.7
52.5°	462.3	472.7	513.1	556.1	575.6
55°	432.4	440.2	481.9	527.4	548.3
57.5°	395.9	410.2	451.9	498.8	519.6
60°	355.5	373.8	419.3	470.1	491.0
62.5°	329.5	339.9	389.4	440.2	463.6
65°	291.7	304.7	356.8	408.9	433.7
67.5°	260.5	273.5	326.9	379.0	403.7
70°	226.6	239.6	295.6	347.7	372.5
72.5°	187.5	205.8	264.4	316.5	342.5
75°	156.3	173.2	230.5	282.6	303.4
77.5°	121.1	143.3	196.6	239.6	255.3
80°	89.9	112.0	160.2	191.4	205.8
82.5°	61.2	83.3	119.8	143.3	151.1
85°	36.5	52.1	76.8	89.9	88.6
87.5°	16.9	22.1	31.3	31.3	30.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)