

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: P312308

Luminaire Tested: **14FCZ2-20-UNV-L83050-S-CP187-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: P312308
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-40)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 14FCZ2-20-UNV-L83050-S-CP187-W2A-U-4500K
Description: 1'X4' TROFFER LED MODULE,SMOOTH LENS, 0.187" POLYCARB 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: 2013.0 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.26 / 1.36
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

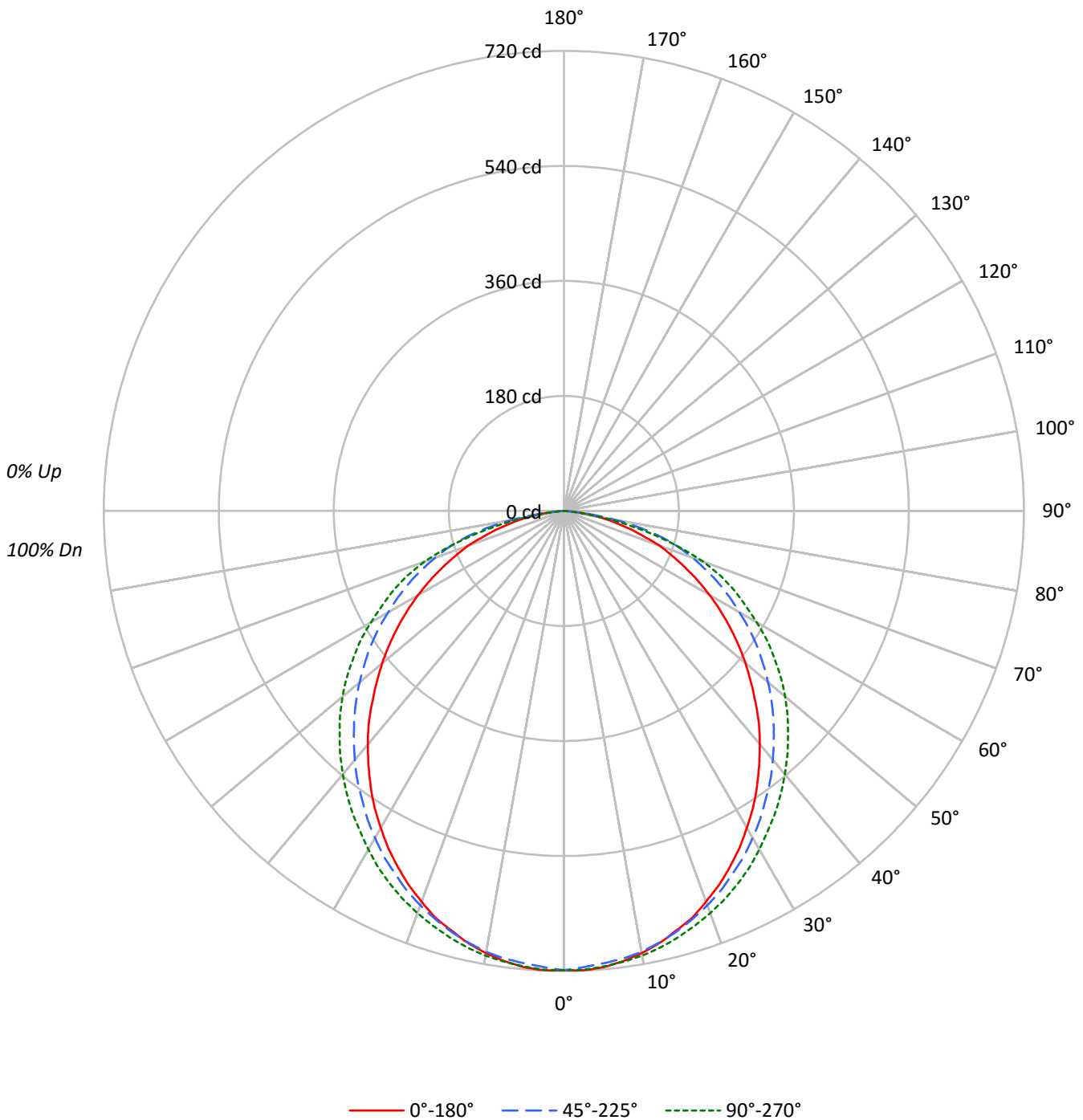
Input Watts (W): 17.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1934	1934	1934
5°	1936	1920	1933
10°	1920	1914	1931
15°	1894	1899	1924
20°	1863	1881	1918
25°	1825	1858	1912
30°	1780	1836	1901
35°	1731	1810	1895
40°	1676	1788	1890
45°	1614	1766	1888
50°	1554	1747	1893
55°	1489	1733	1887
60°	1418	1708	1875
65°	1335	1703	1875
70°	1257	1688	1822
75°	1090	1650	1556
80°	882	1330	1037
85°	587	463	309



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.9	3.4
10°-20°	193.1	9.6
20°-30°	289.6	14.4
30°-40°	345.5	17.2
40°-50°	357.2	17.7
50°-60°	326.1	16.2
60°-70°	256.6	12.7
70°-80°	149.4	7.4
80°-90°	27.5	1.4
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°	550.6	27.4
0°-40°	896.1	44.5
0°-60°	1579.4	78.5
0°-90°	2013.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2013.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	719	719	719	719	719	
5°	717	715	711	717	716	68
15°	680	681	682	691	691	192
25°	615	618	626	641	644	283
35°	527	534	551	572	577	329
45°	424	438	464	490	496	328
55°	317	334	369	396	402	284
65°	210	232	268	288	294	208
75°	105	130	159	156	150	111
85°	19	27	15	12	10	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	718.6	718.6	718.6	718.6	718.6
2.5°	719.6	717.6	714.6	719.6	718.6
5°	716.6	714.6	710.6	716.6	715.6
7.5°	710.6	708.6	706.6	712.6	711.6
10°	702.6	701.6	700.6	707.6	706.6
12.5°	692.7	692.7	691.7	699.6	699.6
15°	679.7	680.7	681.7	690.7	690.7
17.5°	667.7	666.7	669.7	679.7	680.7
20°	650.7	652.7	656.7	668.7	669.7
22.5°	633.8	635.8	642.8	654.7	657.7
25°	614.8	617.8	625.8	640.8	643.8
27.5°	594.8	598.8	609.8	625.8	628.8
30°	572.9	578.9	590.9	608.8	611.8
32.5°	550.9	556.9	571.9	589.9	593.8
35°	527.0	534.0	550.9	571.9	576.9
37.5°	502.0	511.0	531.0	551.9	557.9
40°	477.1	487.1	509.0	531.0	538.0
42.5°	452.1	462.1	486.1	511.0	518.0
45°	424.2	438.2	464.1	490.1	496.0
47.5°	397.2	412.2	441.1	467.1	475.1
50°	371.3	386.3	417.2	444.1	452.1
52.5°	344.3	360.3	393.2	421.2	428.2
55°	317.4	334.4	369.3	396.2	402.2
57.5°	290.4	308.4	344.3	370.3	377.3
60°	263.5	282.5	317.4	343.3	348.3
62.5°	236.5	256.5	292.4	315.4	320.4
65°	209.6	231.6	267.5	288.4	294.4
67.5°	183.6	205.6	240.5	260.5	265.5
70°	159.7	179.7	214.6	229.6	231.6
72.5°	129.7	154.7	188.6	196.6	191.6
75°	104.8	129.7	158.7	155.7	149.7
77.5°	79.8	104.8	123.8	113.8	105.8
80°	56.9	81.8	85.8	70.9	66.9
82.5°	36.9	56.9	47.9	36.9	29.9
85°	19.0	26.9	15.0	12.0	10.0
87.5°	6.0	4.0	2.0	2.0	1.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)