

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: P313807

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-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: P313807
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: 24FCZ2-30HE-UNV-L83050-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: 2758.0 lumens
Efficiency: N/A
Efficacy: 127.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

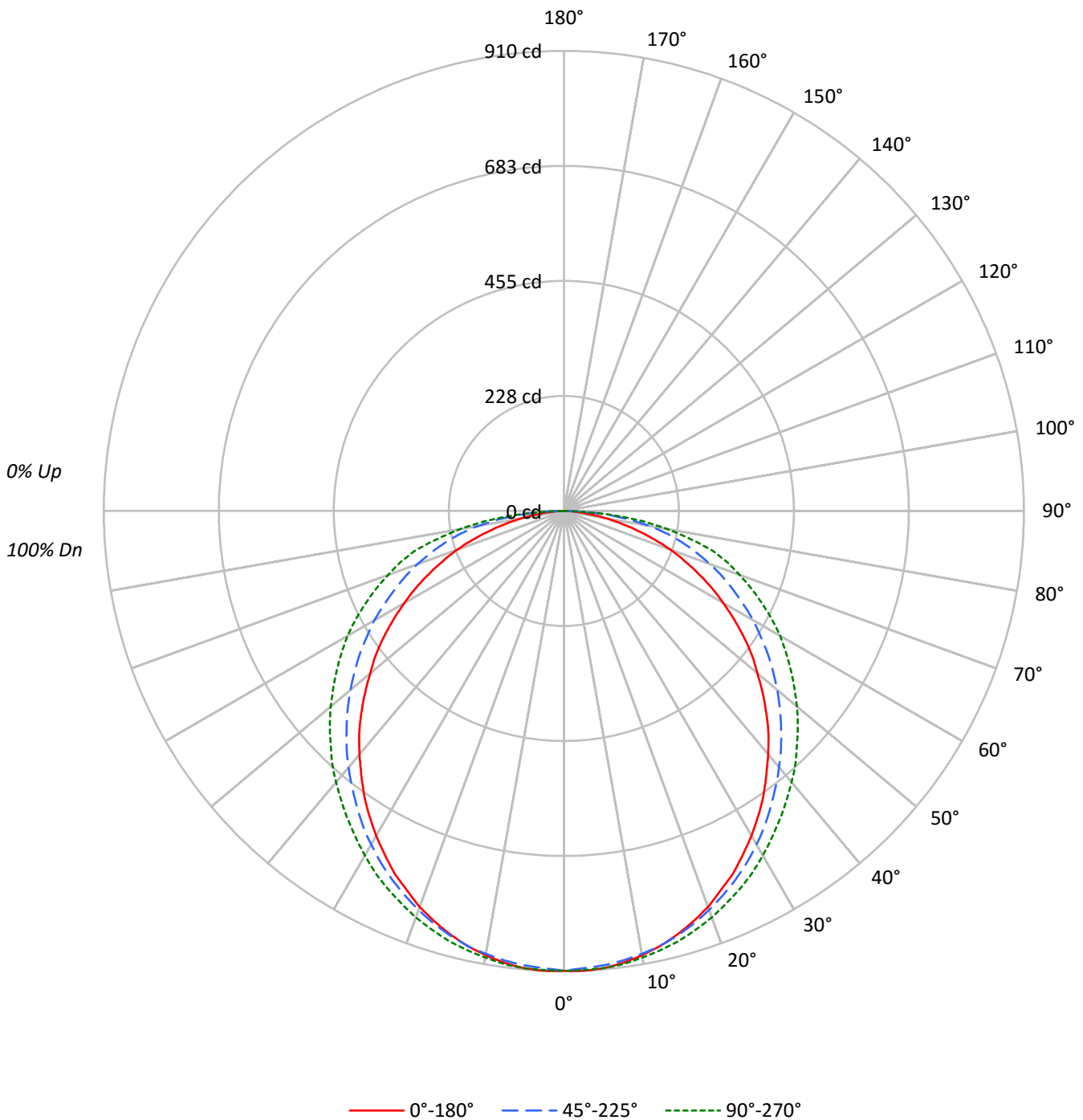
Input Watts (W): 21.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1224	1224	1224
5°	1226	1219	1226
10°	1219	1215	1225
15°	1208	1211	1226
20°	1194	1203	1225
25°	1175	1194	1224
30°	1153	1184	1223
35°	1130	1172	1224
40°	1104	1164	1231
45°	1078	1156	1241
50°	1046	1153	1260
55°	1020	1155	1286
60°	980	1165	1330
65°	935	1177	1378
70°	886	1213	1454
75°	790	1265	1589
80°	673	1340	1623
85°	480	1328	1555



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.1	3.1
10°-20°	246.1	8.9
20°-30°	371.8	13.5
30°-40°	448.1	16.2
40°-50°	470.4	17.1
50°-60°	440.1	16.0
60°-70°	363.4	13.2
70°-80°	247.6	9.0
80°-90°	84.4	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°	704.0	25.5
0°-40°	1152.0	41.8
0°-60°	2062.5	74.8
0°-90°	2758.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2758.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	908	907	902	908	908	86
15°	868	868	869	878	880	245
25°	792	795	804	820	824	364
35°	688	695	714	738	745	430
45°	566	578	608	640	652	437
55°	435	452	492	533	548	388
65°	294	318	370	416	433	291
75°	152	187	243	289	306	162
85°	31	61	86	97	101	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	909.6	909.6	909.6	909.6	909.6
2.5°	910.5	909.6	905.0	909.6	908.6
5°	907.7	906.8	902.2	907.7	907.7
7.5°	901.3	901.3	896.8	903.2	904.1
10°	892.2	892.2	889.4	896.8	896.8
12.5°	881.2	881.2	881.2	888.5	889.4
15°	867.5	868.4	869.3	878.5	880.3
17.5°	851.0	852.8	855.6	866.6	868.4
20°	833.6	835.4	840.0	852.8	855.6
22.5°	811.7	816.2	822.6	837.3	840.0
25°	791.5	795.2	804.3	819.9	824.5
27.5°	766.8	772.3	784.2	800.7	807.1
30°	742.1	747.6	762.2	781.5	786.9
32.5°	715.6	723.8	739.4	759.5	765.9
35°	688.1	695.4	713.7	737.5	744.9
37.5°	657.9	668.0	688.1	713.7	722.9
40°	628.6	639.6	662.5	690.0	700.9
42.5°	599.4	610.3	636.0	667.1	678.1
45°	566.4	578.3	607.6	640.5	652.4
47.5°	533.5	548.1	580.1	614.9	627.7
50°	499.6	516.1	550.9	587.5	602.1
52.5°	469.4	485.0	521.6	560.9	574.7
55°	434.7	452.0	492.3	532.6	548.1
57.5°	399.0	418.2	461.2	505.1	520.7
60°	364.2	385.2	432.8	476.7	494.1
62.5°	330.3	351.4	400.8	446.5	463.9
65°	293.7	318.4	369.7	416.3	432.8
67.5°	259.0	285.5	339.5	385.2	401.7
70°	225.1	250.7	308.4	353.2	369.7
72.5°	188.5	217.8	275.4	322.1	339.5
75°	151.9	186.7	243.4	289.2	305.6
77.5°	118.0	153.7	210.5	248.0	256.2
80°	86.9	123.5	172.9	199.5	209.5
82.5°	55.8	92.4	131.8	151.0	159.2
85°	31.1	61.3	86.0	97.0	100.7
87.5°	12.8	26.5	34.8	39.3	39.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)