

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: P309662

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP187-W2A-U-2700K**

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: P309662
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-HRP-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (336) 2700K 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: 3592.0 lumens
Efficiency: N/A
Efficacy: 75.5 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

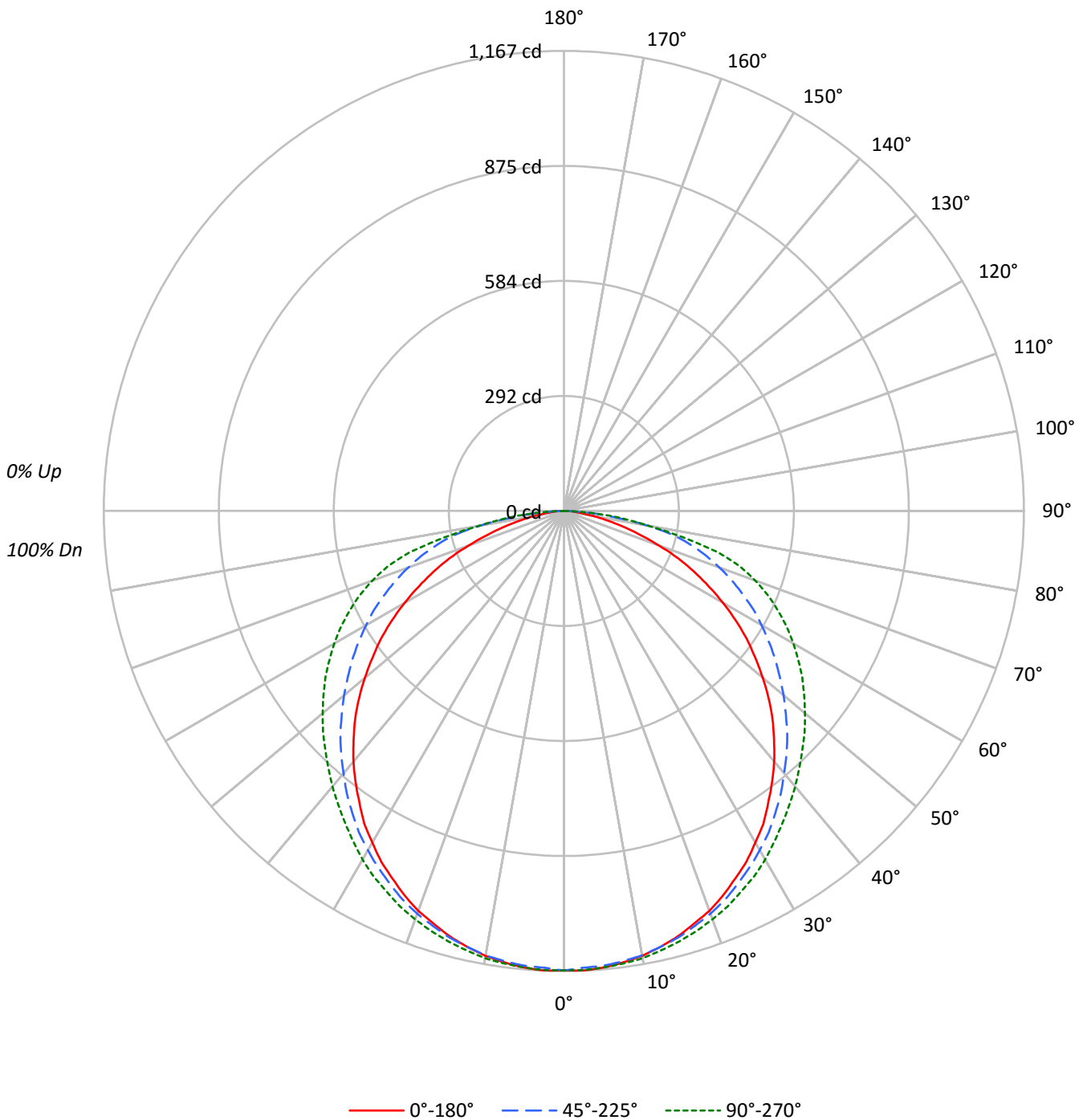
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	101	96	93	96	93	90	92	90	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	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1568	1568	1568
5°	1570	1564	1570
10°	1566	1564	1574
15°	1556	1561	1575
20°	1546	1557	1578
25°	1527	1549	1581
30°	1509	1544	1586
35°	1485	1536	1588
40°	1458	1527	1603
45°	1425	1525	1628
50°	1379	1523	1671
55°	1330	1534	1732
60°	1255	1558	1809
65°	1159	1594	1910
70°	1011	1651	2035
75°	821	1735	2103
80°	606	1702	1702
85°	465	1254	1416



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.4	3.1
10°-20°	317.0	8.8
20°-30°	482.6	13.4
30°-40°	586.0	16.3
40°-50°	619.2	17.2
50°-60°	584.2	16.3
60°-70°	485.8	13.5
70°-80°	319.6	8.9
80°-90°	87.1	2.4
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°	910.1	25.3
0°-40°	1496.1	41.7
0°-60°	2699.5	75.2
0°-90°	3592.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3592.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1165	1165	1165	1165	1165	
5°	1162	1162	1158	1162	1162	110
15°	1117	1119	1120	1131	1131	315
25°	1029	1035	1044	1062	1065	474
35°	904	914	935	959	967	566
45°	749	764	802	841	856	577
55°	567	591	654	716	738	505
65°	364	406	501	574	600	360
75°	158	230	334	396	404	170
85°	30	66	81	90	92	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1165.4	1165.4	1165.4	1165.4	1165.4
2.5°	1166.9	1165.4	1159.4	1165.4	1165.4
5°	1162.4	1162.4	1157.9	1162.4	1162.4
7.5°	1154.9	1154.9	1151.9	1157.9	1157.9
10°	1145.9	1145.9	1144.4	1151.9	1151.9
12.5°	1132.3	1133.8	1132.3	1141.4	1141.4
15°	1117.3	1118.8	1120.3	1130.8	1130.8
17.5°	1097.8	1100.8	1103.8	1115.8	1117.3
20°	1079.7	1081.2	1087.2	1100.8	1102.3
22.5°	1055.7	1060.2	1067.7	1081.2	1085.7
25°	1028.6	1034.6	1043.6	1061.7	1064.7
27.5°	1003.0	1007.5	1019.6	1039.1	1045.1
30°	971.4	979.0	994.0	1013.5	1021.1
32.5°	941.4	948.9	966.9	988.0	994.0
35°	903.8	914.3	935.3	959.4	966.9
37.5°	867.7	878.2	903.8	930.8	939.9
40°	830.1	842.1	869.2	900.8	912.8
42.5°	789.5	806.0	836.1	870.7	884.2
45°	748.9	763.9	801.5	840.6	855.6
47.5°	705.3	723.3	763.9	810.5	828.6
50°	658.7	681.2	727.8	779.0	798.5
52.5°	612.0	637.6	690.2	747.4	768.4
55°	566.9	591.0	654.1	715.8	738.4
57.5°	517.3	547.4	616.5	682.7	705.3
60°	466.2	499.3	579.0	648.1	672.2
62.5°	415.0	452.6	542.9	612.0	637.6
65°	363.9	406.0	500.8	574.4	600.0
67.5°	314.3	360.9	461.7	535.3	560.9
70°	257.1	315.8	419.6	491.7	517.3
72.5°	204.5	272.2	379.0	446.6	469.2
75°	157.9	230.1	333.8	395.5	404.5
77.5°	115.8	188.0	287.2	308.3	309.8
80°	78.2	150.4	219.6	216.5	219.6
82.5°	51.1	112.8	138.3	154.9	156.4
85°	30.1	66.2	81.2	90.2	91.7
87.5°	15.0	22.6	28.6	30.1	33.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)