

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: P309708

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-3000K**

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: P309708
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: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3000K 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: 4005.0 lumens
Efficiency: N/A
Efficacy: 76.7 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

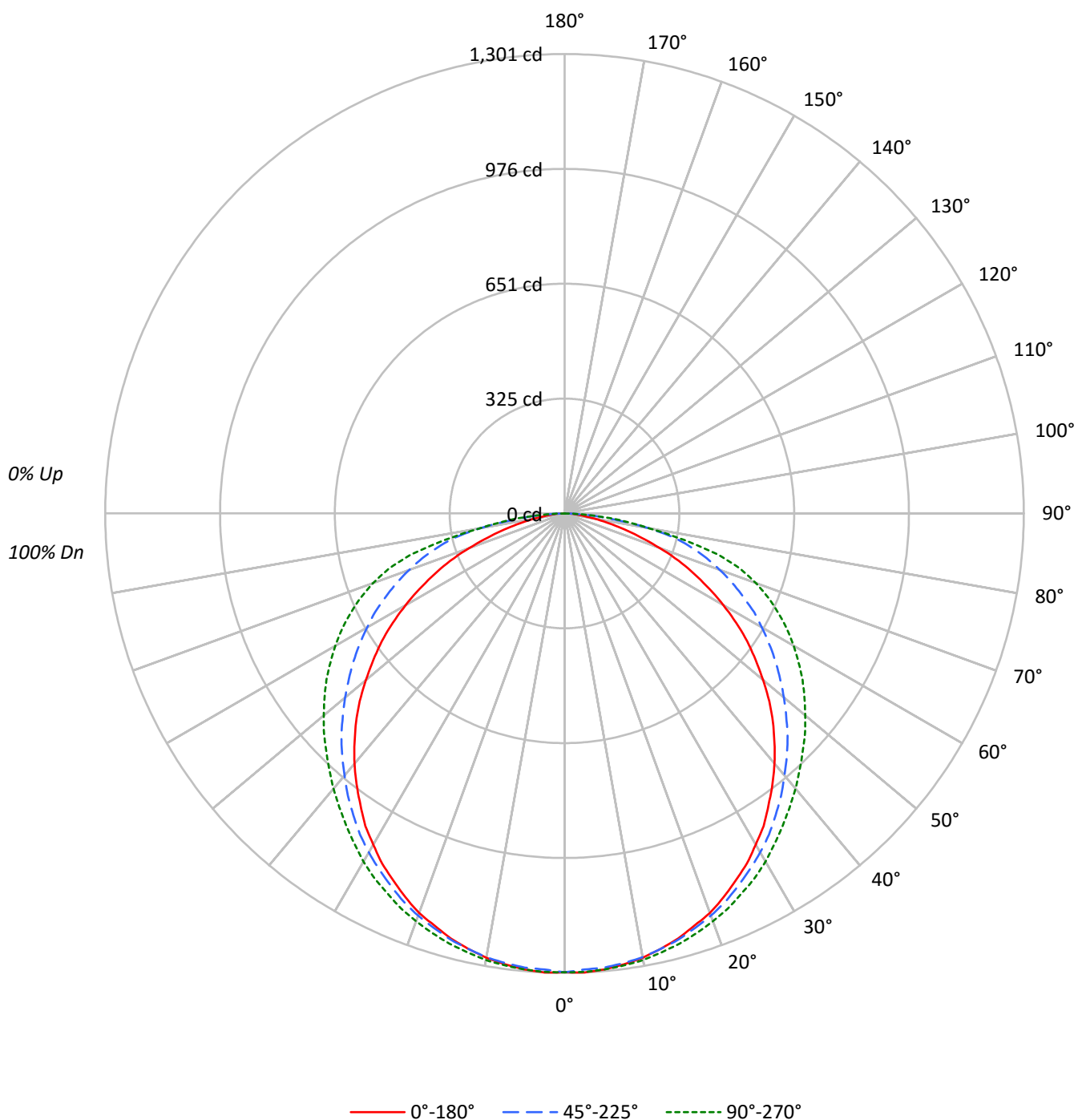
Input Watts (W): 52.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309708

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P309708

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-3000K

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	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°	1748	1748	1748
5°	1751	1744	1751
10°	1746	1743	1755
15°	1735	1740	1756
20°	1724	1736	1760
25°	1703	1727	1762
30°	1683	1722	1769
35°	1655	1713	1771
40°	1626	1702	1788
45°	1589	1701	1815
50°	1537	1699	1864
55°	1483	1711	1931
60°	1399	1737	2017
65°	1292	1777	2130
70°	1128	1840	2269
75°	915	1935	2345
80°	676	1897	1897
85°	517	1397	1579



TEST NUMBER: P309708

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.1	3.1
10°-20°	353.5	8.8
20°-30°	538.1	13.4
30°-40°	653.4	16.3
40°-50°	690.3	17.2
50°-60°	651.4	16.3
60°-70°	541.6	13.5
70°-80°	356.3	8.9
80°-90°	97.1	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°	1014.7	25.3
0°-40°	1668.1	41.7
0°-60°	3009.9	75.2
0°-90°	4005.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4005.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1299	1299	1299	1299	1299	
5°	1296	1296	1291	1296	1296	123
15°	1246	1247	1249	1261	1261	351
25°	1147	1154	1164	1184	1187	529
35°	1008	1019	1043	1070	1078	631
45°	835	852	894	937	954	643
55°	632	659	729	798	823	563
65°	406	453	558	640	669	401
75°	176	256	372	441	451	190
85°	34	74	90	101	102	41
90°	0	0	0	0	0	



TEST NUMBER: P309708

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1301.1	1299.4	1292.7	1299.4	1299.4
5°	1296.1	1296.1	1291.0	1296.1	1296.1
7.5°	1287.7	1287.7	1284.3	1291.0	1291.0
10°	1277.6	1277.6	1276.0	1284.3	1284.3
12.5°	1262.5	1264.2	1262.5	1272.6	1272.6
15°	1245.8	1247.4	1249.1	1260.9	1260.9
17.5°	1224.0	1227.3	1230.7	1244.1	1245.8
20°	1203.9	1205.5	1212.2	1227.3	1229.0
22.5°	1177.0	1182.1	1190.4	1205.5	1210.6
25°	1146.8	1153.6	1163.6	1183.7	1187.1
27.5°	1118.3	1123.4	1136.8	1158.6	1165.3
30°	1083.1	1091.5	1108.3	1130.1	1138.5
32.5°	1049.6	1058.0	1078.1	1101.6	1108.3
35°	1007.7	1019.4	1042.9	1069.7	1078.1
37.5°	967.4	979.2	1007.7	1037.9	1047.9
40°	925.5	938.9	969.1	1004.3	1017.7
42.5°	880.3	898.7	932.2	970.8	985.9
45°	835.0	851.8	893.7	937.3	954.0
47.5°	786.4	806.5	851.8	903.7	923.8
50°	734.4	759.5	811.5	868.5	890.3
52.5°	682.4	710.9	769.6	833.3	856.8
55°	632.1	658.9	729.4	798.1	823.2
57.5°	576.8	610.3	687.4	761.2	786.4
60°	519.8	556.7	645.5	722.6	749.5
62.5°	462.8	504.7	605.3	682.4	710.9
65°	405.8	452.7	558.3	640.5	669.0
67.5°	350.4	402.4	514.7	596.9	625.4
70°	286.7	352.1	467.8	548.3	576.8
72.5°	228.0	303.5	422.5	498.0	523.1
75°	176.1	256.5	372.2	441.0	451.0
77.5°	129.1	209.6	320.2	343.7	345.4
80°	87.2	167.7	244.8	241.4	244.8
82.5°	57.0	125.8	154.3	172.7	174.4
85°	33.5	73.8	90.5	100.6	102.3
87.5°	16.8	25.2	31.9	33.5	36.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)