

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: 168P149

Luminaire Tested: **S224/2BX40**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: 168P149  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S224/2BX40  
Description: Neo-ray Fenestra Series 224 Luminaire with side  
mounted curved acrylic diffusers and curved perms.  
Light Source: Four - F40BX/SPX35/RS - 3150 Lumens ea. - 40 Watts ea.  
Ballast/Driver: Two - Triad C340I120RH Electronic - L.O.B.F. = Unknown

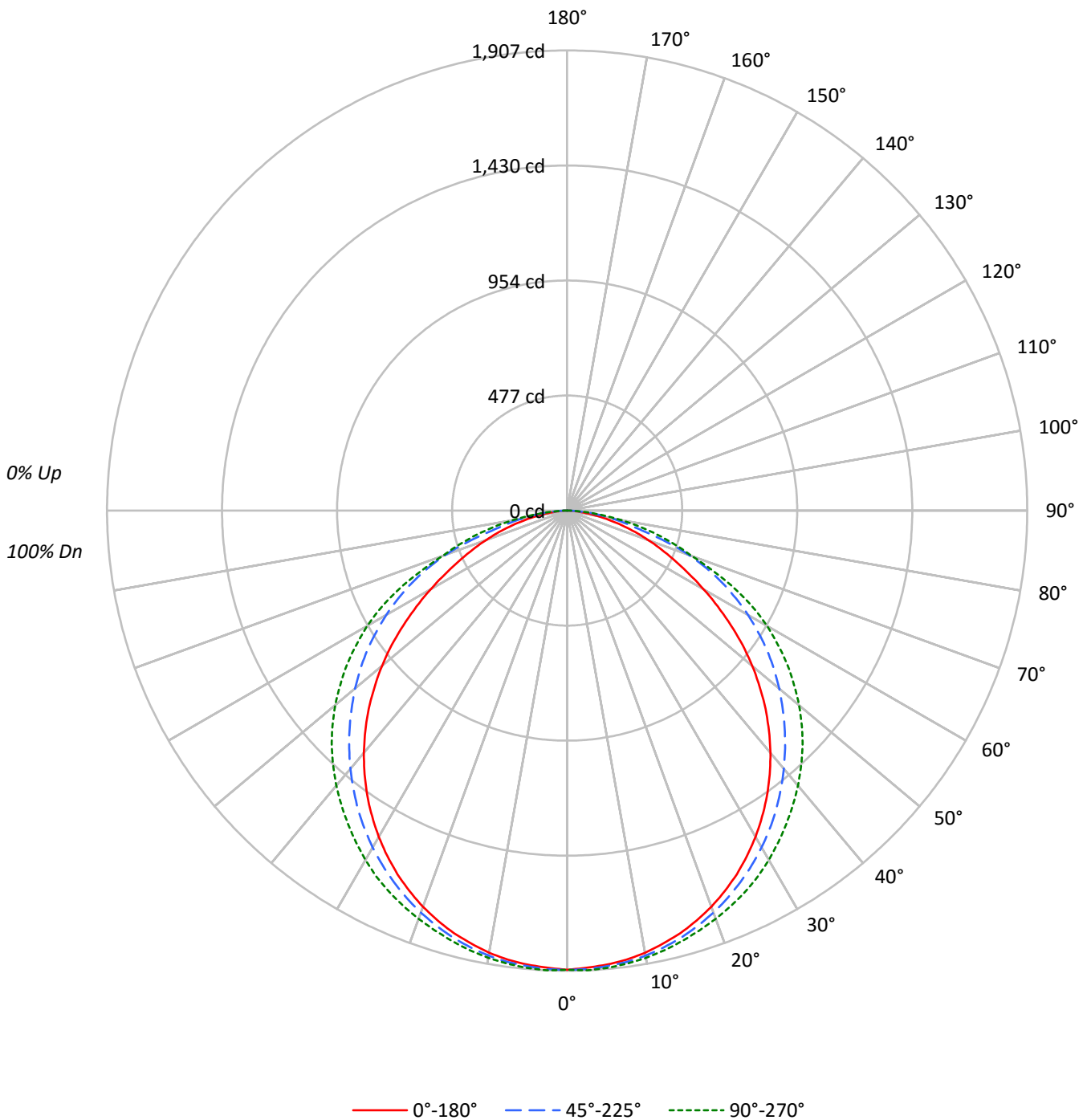
**Summary**

Lumens per Lamp: 3150 (4 lamps)  
Luminaire Lumens: 5385.3 lumens  
Efficiency: 42.7%  
Efficacy: 37.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.3 / 1.38  
Luminous Opening: Rectangular (W 1.88' x L: 3.92' x H: 0')  
CIE Type: Direct

Input Watts (W): 142  
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	51	51	51	51	50	50	50	50	47	47	47	45	45	45	44	44	44	43
1	47	45	43	41	45	44	42	40	42	40	39	40	39	38	39	38	37	36
2	42	39	36	33	41	38	35	33	36	34	32	35	33	32	34	32	31	30
3	39	34	31	28	38	33	30	28	32	29	27	31	29	27	30	28	26	25
4	35	30	26	24	34	30	26	23	29	25	23	28	25	23	27	24	22	22
5	32	27	23	20	32	26	23	20	26	22	20	25	22	20	24	21	19	19
6	30	24	20	18	29	24	20	18	23	20	17	22	19	17	22	19	17	16
7	28	22	18	16	27	22	18	16	21	18	15	20	17	15	20	17	15	14
8	26	20	16	14	25	20	16	14	19	16	14	19	16	14	18	16	14	13
9	24	18	15	13	24	18	15	12	18	15	12	17	14	12	17	14	12	11
10	23	17	14	11	22	17	13	11	16	13	11	16	13	11	16	13	11	10

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

	0°	45°	90°
0°	2779	2779	2779
5°	2770	2778	2789
10°	2760	2778	2791
15°	2741	2769	2791
20°	2715	2756	2798
25°	2680	2738	2811
30°	2633	2719	2820
35°	2575	2694	2824
40°	2500	2664	2837
45°	2402	2634	2850
50°	2277	2606	2852
55°	2111	2577	2839
60°	1910	2530	2796
65°	1707	2454	2654
70°	1529	2285	2340
75°	1321	1817	2190
80°	1043	1581	1918
85°	704	1257	1324



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	180.2	3.3	1.4
10°-20°	516.5	9.6	4.1
20°-30°	784.2	14.6	6.2
30°-40°	945.8	17.6	7.5
40°-50°	980.5	18.2	7.8
50°-60°	883.5	16.4	7.0
60°-70°	660.6	12.3	5.2
70°-80°	350.1	6.5	2.8
80°-90°	84.0	1.6	0.7
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	1480.9	27.5	11.8
0°-40°	2426.6	45.1	19.3
0°-60°	4290.5	79.7	34.1
0°-90°	5385.3	100.0	42.7
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	5385.3	100.0	42.7

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1903	1903	1903	1903	1903	
5°	1889	1892	1895	1898	1902	179
15°	1813	1819	1831	1839	1846	511
25°	1663	1675	1699	1729	1744	766
35°	1444	1462	1511	1562	1584	902
45°	1163	1190	1275	1352	1380	895
55°	829	884	1012	1089	1115	740
65°	494	583	710	759	768	493
75°	234	299	322	373	388	249
85°	42	58	75	79	79	52
90°	0	0	0	0	0	2
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1903	1903	1903	1903	1903
2.5°	1896	1898	1902	1904	1907
5°	1889	1892	1895	1898	1902
7.5°	1877	1881	1887	1890	1894
10°	1861	1865	1873	1878	1882
12.5°	1838	1844	1854	1862	1866
15°	1813	1819	1831	1839	1846
17.5°	1782	1790	1804	1816	1824
20°	1747	1756	1773	1790	1800
22.5°	1707	1718	1738	1761	1774
25°	1663	1675	1699	1729	1744
27.5°	1614	1628	1657	1694	1711
30°	1561	1577	1612	1654	1672
32.5°	1504	1521	1563	1610	1629
35°	1444	1462	1511	1562	1584
37.5°	1379	1398	1455	1512	1537
40°	1311	1331	1397	1460	1488
42.5°	1238	1262	1337	1407	1435
45°	1163	1190	1275	1352	1380
47.5°	1083	1115	1211	1291	1319
50°	1002	1039	1147	1227	1255
52.5°	917	962	1081	1160	1185
55°	829	884	1012	1089	1115
57.5°	740	808	939	1015	1036
60°	654	732	866	936	957
62.5°	570	657	789	852	869
65°	494	583	710	759	768
67.5°	424	510	626	656	656
70°	358	436	535	539	548
72.5°	295	364	434	450	470
75°	234	299	322	373	388
77.5°	176	233	252	295	309
80°	124	165	188	219	228
82.5°	79	95	130	145	149
85°	42	58	75	79	79
87.5°	16	24	29	29	29
90°	0	0	0	0	0
92.5°	0	0	0	0	0
95°	0	0	0	0	0
97.5°	0	0	0	0	0
100°	0	0	0	0	0
102.5°	0	0	0	0	0
105°	0	0	0	0	0
107.5°	0	0	0	0	0
110°	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0	0	0	0	0
115°	0	0	0	0	0
117.5°	0	0	0	0	0
120°	0	0	0	0	0
122.5°	0	0	0	0	0
125°	0	0	0	0	0
127.5°	0	0	0	0	0
130°	0	0	0	0	0
132.5°	0	0	0	0	0
135°	0	0	0	0	0
137.5°	0	0	0	0	0
140°	0	0	0	0	0
142.5°	0	0	0	0	0
145°	0	0	0	0	0
147.5°	0	0	0	0	0
150°	0	0	0	0	0
152.5°	0	0	0	0	0
155°	0	0	0	0	0
157.5°	0	0	0	0	0
160°	0	0	0	0	0
162.5°	0	0	0	0	0
165°	0	0	0	0	0
167.5°	0	0	0	0	0
170°	0	0	0	0	0
172.5°	0	0	0	0	0
175°	0	0	0	0	0
177.5°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)