

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055964

Luminaire Tested: S124R3DR-S1020D850-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055964  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-S1020D850-X4F0-XX-UDD-FLL-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

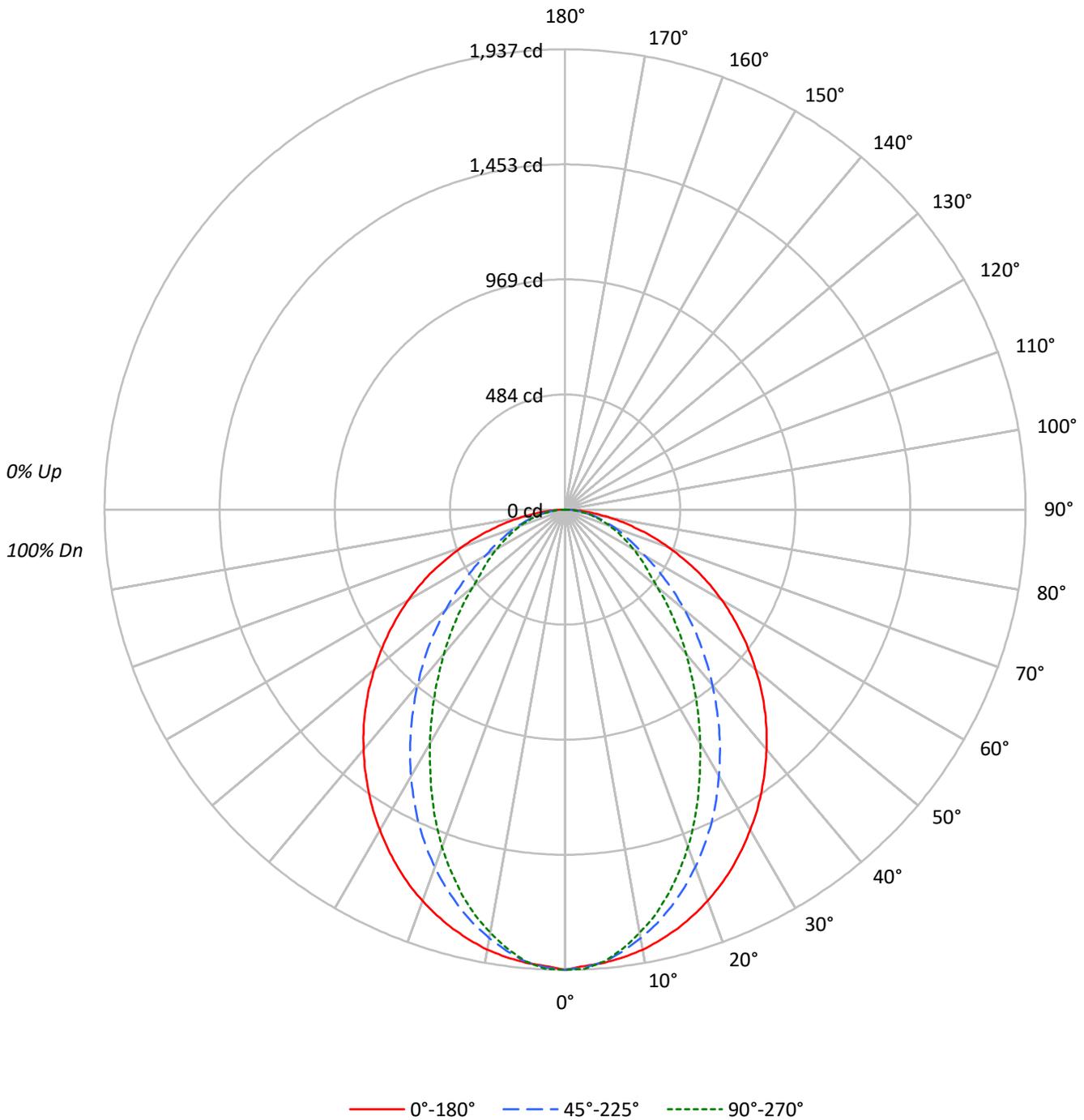
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3857.6 lumens  
Efficiency: N/A  
Efficacy: 111.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.7  
Input Voltage (V): 120  
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: 24 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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

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

	0°	45°	90°
0°	17124	17124	17124
5°	16987	16949	16936
10°	16889	16441	16236
15°	16710	15823	15341
20°	16493	15072	14227
25°	16224	14209	12930
30°	15903	13226	11611
35°	15566	12198	10337
40°	15215	11135	9146
45°	14843	10104	8036
50°	14389	9018	6939
55°	13950	7931	6305
60°	13457	6804	5846
65°	12849	6172	5456
70°	11935	5710	5157
75°	10808	5257	4868
80°	9435	4862	4572
85°	7233	4484	4190

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14843 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	180.3	4.7
10°-20°	489.1	12.7
20°-30°	677.2	17.6
30°-40°	726.9	18.8
40°-50°	661.1	17.1
50°-60°	520.5	13.5
60°-70°	356.3	9.2
70°-80°	191.8	5.0
80°-90°	54.3	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°	1346.7	34.9
0°-40°	2073.6	53.8
0°-60°	3255.2	84.4
0°-90°	3857.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3857.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1937	1937	1937	1937	1937	
5°	1914	1935	1910	1900	1908	182
15°	1826	1806	1729	1682	1676	515
25°	1663	1595	1456	1351	1325	766
35°	1442	1330	1130	993	958	902
45°	1187	1036	808	668	643	915
55°	905	732	514	415	409	809
65°	614	439	295	262	261	606
75°	316	192	154	141	142	338
85°	71	48	44	41	41	86
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1936.8	1936.8	1936.8	1936.8	1936.8
2.5°	1922.5	1945.3	1928.2	1931.1	1933.9
5°	1914.0	1935.3	1909.7	1899.7	1908.3
7.5°	1899.7	1914.0	1874.1	1855.5	1864.1
10°	1881.2	1884.0	1831.3	1804.2	1808.5
12.5°	1855.5	1848.4	1784.3	1745.8	1748.6
15°	1825.6	1805.7	1728.7	1681.7	1676.0
17.5°	1791.4	1758.6	1667.4	1607.6	1596.2
20°	1752.9	1708.7	1601.9	1524.9	1512.1
22.5°	1710.2	1653.2	1530.6	1439.4	1420.9
25°	1663.1	1594.7	1456.5	1351.0	1325.4
27.5°	1611.8	1532.0	1376.7	1261.2	1228.5
30°	1557.7	1466.5	1295.5	1171.5	1137.3
32.5°	1502.1	1399.5	1212.8	1081.7	1046.1
35°	1442.2	1329.7	1130.1	993.3	957.7
37.5°	1381.0	1257.0	1046.1	907.8	870.8
40°	1318.3	1184.3	964.8	822.3	792.4
42.5°	1254.1	1110.2	885.0	742.5	715.4
45°	1187.1	1036.1	808.1	668.4	642.7
47.5°	1118.7	960.5	729.7	598.6	574.3
50°	1046.1	885.0	655.6	530.2	504.5
52.5°	976.2	808.1	584.3	463.2	450.3
55°	905.0	732.5	514.5	414.7	409.0
57.5°	833.7	657.0	450.3	376.2	370.5
60°	761.0	582.9	384.8	336.3	330.6
62.5°	688.3	510.2	336.3	297.9	295.0
65°	614.2	438.9	295.0	262.2	260.8
67.5°	535.9	370.5	258.0	230.9	229.4
70°	461.7	302.1	220.9	199.5	199.5
72.5°	391.9	239.4	186.7	169.6	169.6
75°	316.4	192.4	153.9	141.1	142.5
77.5°	249.4	151.1	124.0	115.4	115.4
80°	185.3	112.6	95.5	88.4	89.8
82.5°	125.4	78.4	68.4	64.1	64.1
85°	71.3	48.5	44.2	41.3	41.3
87.5°	25.7	22.8	21.4	18.5	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)