

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: P1055960

Luminaire Tested: S124R3DR-S1020D840-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055960  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-S1020D840-X4F0-XX-UDD-FLL-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

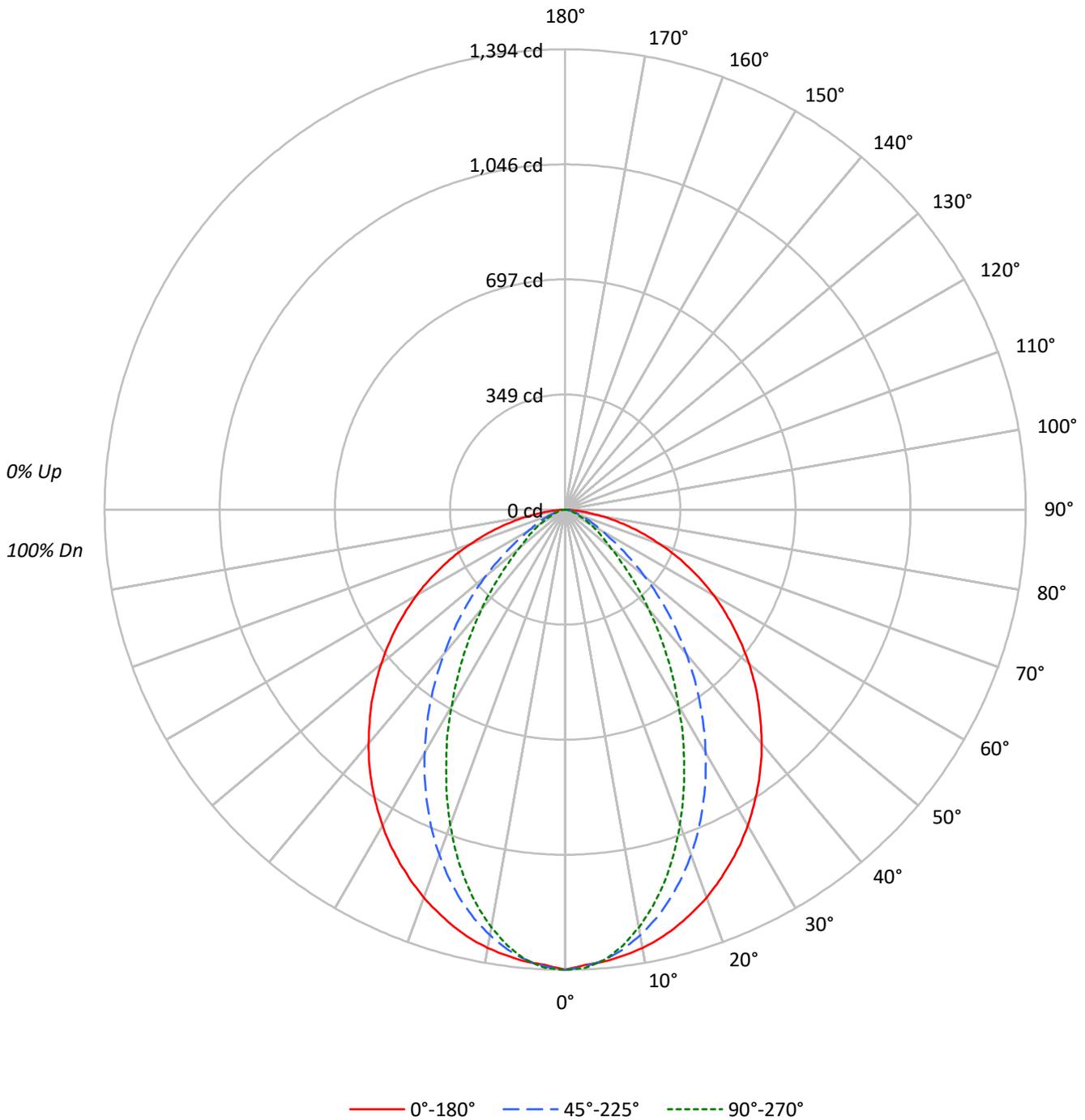
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2253.7 lumens  
Efficiency: N/A  
Efficacy: 64.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03  
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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89				89
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78				78
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68				68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60				60
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54				54
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48				48
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44				44
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40				40
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37				37
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34				34

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

	0°	45°	90°
0°	12323	12323	12323
5°	12197	12151	12151
10°	12106	11755	11535
15°	11961	11190	10667
20°	11770	10477	9560
25°	11533	9634	8305
30°	11288	8678	6995
35°	10995	7662	5757
40°	10679	6575	4538
45°	10353	5468	3391
50°	9996	4302	2481
55°	9602	3180	1981
60°	9179	2203	1515
65°	8634	1711	1113
70°	7817	1207	871
75°	6829	844	666
80°	5484	662	596
85°	3023	528	528

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10353 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.3	5.7
10°-20°	345.4	15.3
20°-30°	460.7	20.4
30°-40°	463.9	20.6
40°-50°	380.4	16.9
50°-60°	260.0	11.5
60°-70°	145.3	6.4
70°-80°	57.6	2.6
80°-90°	10.9	0.5
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°	935.4	41.5
0°-40°	1399.3	62.1
0°-60°	2039.8	90.5
0°-90°	2253.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2253.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1394	1394	1394	1394	1394	
5°	1374	1390	1369	1363	1369	130
15°	1307	1293	1222	1180	1165	368
25°	1182	1124	988	888	851	545
35°	1019	911	710	575	533	637
45°	828	676	437	308	271	638
55°	623	437	206	138	128	557
65°	413	208	82	58	53	408
75°	200	54	25	21	20	214
85°	30	5	5	5	5	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1393.8	<i>1393.8</i>	1393.8	1393.8	1393.8
2.5°	<i>1380.8</i>	<i>1397.7</i>	<i>1386.0</i>	<i>1387.3</i>	<i>1389.9</i>
5°	1374.3	<i>1389.9</i>	1369.1	1362.6	1369.1
7.5°	1362.6	<i>1374.3</i>	1343.2	1330.2	1332.8
10°	1348.4	<i>1352.2</i>	1309.4	1287.4	1284.8
12.5°	1330.2	<i>1325.0</i>	1269.2	1236.7	1229.0
15°	1306.8	<i>1292.6</i>	1222.5	1179.6	1165.4
17.5°	1279.6	<i>1254.9</i>	1170.6	1114.8	1094.0
20°	1251.0	<i>1214.7</i>	1113.5	1042.1	1016.1
22.5°	1217.3	<i>1171.9</i>	1052.5	965.5	935.7
25°	1182.2	<i>1123.8</i>	987.6	887.7	851.3
27.5°	1145.9	<i>1074.5</i>	920.1	808.5	772.2
30°	1105.7	<i>1021.3</i>	850.0	729.3	685.2
32.5°	1062.9	<i>966.8</i>	779.9	651.5	609.9
35°	1018.7	<i>911.0</i>	709.9	574.9	533.4
37.5°	973.3	<i>853.9</i>	639.8	502.2	460.7
40°	925.3	<i>795.5</i>	569.7	433.4	393.2
42.5°	876.0	<i>735.8</i>	502.2	368.6	330.9
45°	828.0	<i>676.1</i>	437.3	307.6	271.2
47.5°	777.3	<i>616.4</i>	373.7	250.5	219.3
50°	726.7	<i>556.7</i>	312.8	201.2	180.4
52.5°	674.8	<i>497.0</i>	257.0	164.8	150.5
55°	622.9	<i>437.3</i>	206.3	137.6	128.5
57.5°	571.0	<i>377.6</i>	159.6	116.8	106.4
60°	519.1	<i>319.2</i>	124.6	94.7	85.7
62.5°	465.9	<i>260.8</i>	102.5	75.3	67.5
65°	412.7	<i>207.6</i>	81.8	58.4	53.2
67.5°	359.5	<i>158.3</i>	62.3	45.4	41.5
70°	302.4	<i>112.9</i>	46.7	35.0	33.7
72.5°	253.1	<i>76.6</i>	33.7	27.3	26.0
75°	199.9	<i>54.5</i>	24.7	20.8	19.5
77.5°	154.4	<i>35.0</i>	18.2	16.9	15.6
80°	107.7	<i>19.5</i>	13.0	11.7	11.7
82.5°	66.2	<i>10.4</i>	9.1	7.8	7.8
85°	29.8	<i>5.2</i>	5.2	5.2	5.2
87.5°	5.2	<i>2.6</i>	2.6	2.6	2.6
90°	0.0	<i>0.0</i>	0.0	0.0	0.0

(END OF REPORT)