

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055975

Luminaire Tested: S124R3DR-S1020D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055975  
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-S1020D940-X4F0-XX-UDD-F-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

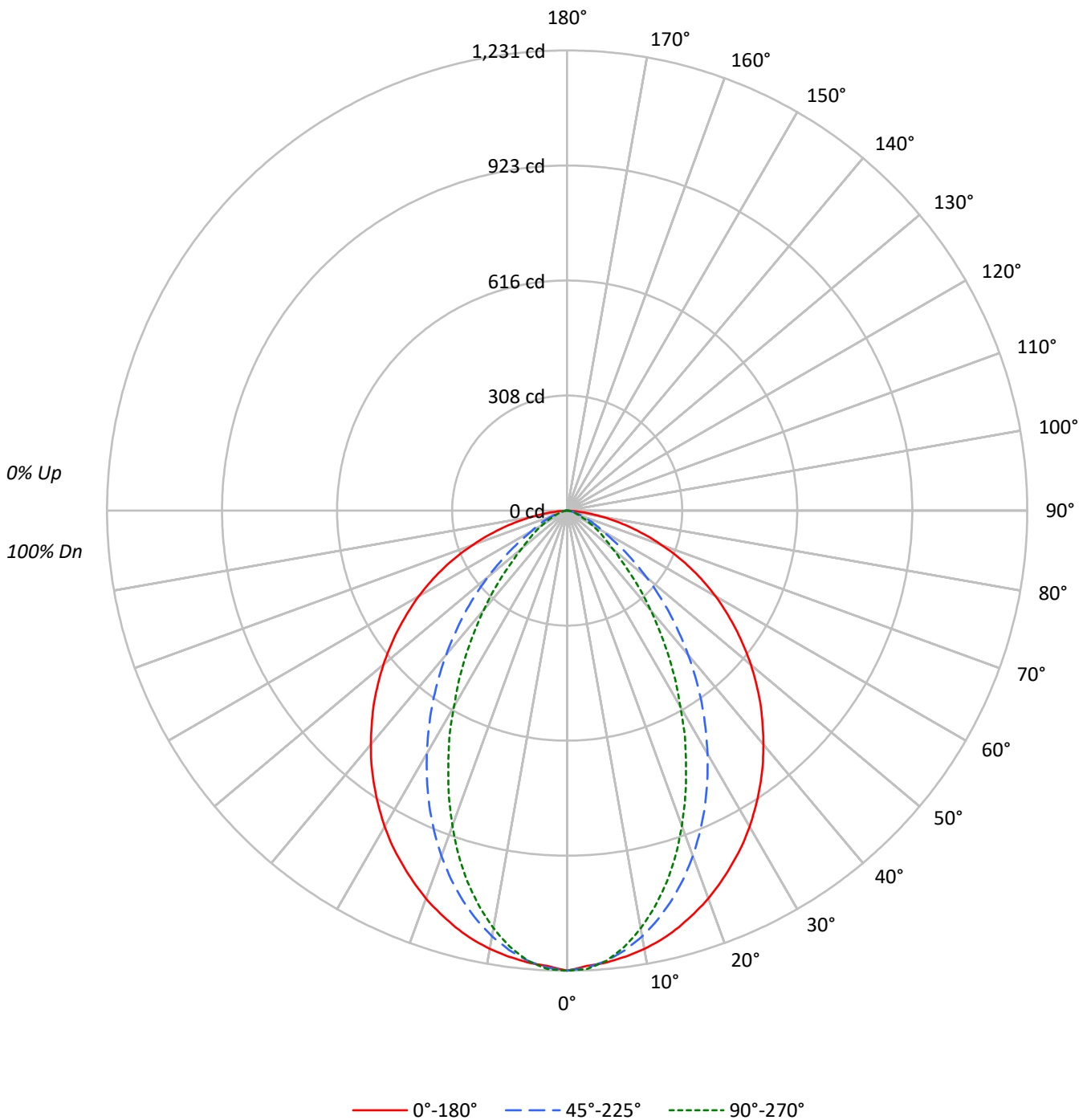
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1990.0 lumens  
Efficiency: N/A  
Efficacy: 57.3 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 (A<sub>in</sub>): 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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34

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

	0°	45°	90°
0°	10881	10881	10881
5°	10770	10729	10729
10°	10689	10380	10184
15°	10562	9880	9419
20°	10394	9251	8442
25°	10184	8507	7333
30°	9967	7663	6177
35°	9709	6765	5084
40°	9429	5807	4007
45°	9141	4829	2995
50°	8826	3799	2191
55°	8478	2809	1748
60°	8106	1945	1337
65°	7623	1510	983
70°	6902	1068	770
75°	6029	745	588
80°	4842	586	524
85°	2678	467	467

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9141 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.2	5.7
10°-20°	305.0	15.3
20°-30°	406.8	20.4
30°-40°	409.6	20.6
40°-50°	335.9	16.9
50°-60°	229.6	11.5
60°-70°	128.3	6.4
70°-80°	50.9	2.6
80°-90°	9.7	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°	826.0	41.5
0°-40°	1235.6	62.1
0°-60°	1801.2	90.5
0°-90°	1990.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1990.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1231	1231	1231	1231	1231	
5°	1214	1227	1209	1203	1209	115
15°	1154	1141	1079	1042	1029	325
25°	1044	992	872	784	752	481
35°	900	804	627	508	471	563
45°	731	597	386	272	240	564
55°	550	386	182	122	113	492
65°	364	183	72	52	47	360
75°	176	48	22	18	17	189
85°	26	5	5	5	5	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1230.7	1230.7	1230.7	1230.7	1230.7
2.5°	1219.2	1234.1	1223.8	1225.0	1227.3
5°	1213.5	1227.3	1208.9	1203.2	1208.9
7.5°	1203.2	1213.5	1186.0	1174.6	1176.8
10°	1190.6	1194.0	1156.2	1136.7	1134.4
12.5°	1174.6	1170.0	1120.7	1092.0	1085.2
15°	1153.9	1141.3	1079.4	1041.6	1029.0
17.5°	1129.9	1108.1	1033.6	984.3	966.0
20°	1104.7	1072.6	983.2	920.2	897.2
22.5°	1074.9	1034.8	929.3	852.6	826.2
25°	1043.9	992.4	872.0	783.8	751.7
27.5°	1011.8	948.8	812.4	713.9	681.8
30°	976.3	901.8	750.6	644.0	605.0
32.5°	938.5	853.7	688.7	575.2	538.6
35°	899.5	804.4	626.8	507.6	471.0
37.5°	859.4	754.0	564.9	443.5	406.8
40°	817.0	702.4	503.1	382.7	347.2
42.5°	773.5	649.7	443.5	325.4	292.2
45°	731.1	597.0	386.2	271.6	239.5
47.5°	686.4	544.3	330.0	221.2	193.7
50°	641.7	491.6	276.2	177.6	159.3
52.5°	595.9	438.9	226.9	145.5	132.9
55°	550.0	386.2	182.2	121.5	113.4
57.5°	504.2	333.5	140.9	103.1	94.0
60°	458.4	281.9	110.0	83.7	75.6
62.5°	411.4	230.3	90.5	66.5	59.6
65°	364.4	183.3	72.2	51.6	47.0
67.5°	317.4	139.8	55.0	40.1	36.7
70°	267.0	99.7	41.3	30.9	29.8
72.5°	223.5	67.6	29.8	24.1	22.9
75°	176.5	48.1	21.8	18.3	17.2
77.5°	136.4	30.9	16.0	14.9	13.8
80°	95.1	17.2	11.5	10.3	10.3
82.5°	58.4	9.2	8.0	6.9	6.9
85°	26.4	4.6	4.6	4.6	4.6
87.5°	4.6	2.3	2.3	2.3	2.3
90°	0.0	0.0	0.0	0.0	0.0



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	19.02	20.42	19.38	20.74	21.05	10.11	11.51	10.47	11.83	12.14
	3H	20.60	21.86	20.98	22.18	22.55	10.70	11.95	11.08	12.28	12.64
	4H	21.20	22.37	21.60	22.72	23.10	10.86	12.02	11.26	12.37	12.76
	6H	21.63	22.71	22.04	23.07	23.47	10.96	12.04	11.38	12.41	12.80
	8H	21.74	22.76	22.17	23.15	23.56	10.98	12.00	11.41	12.39	12.80
	12H	21.79	22.76	22.22	23.14	23.57	10.99	11.97	11.42	12.35	12.78
4H	2H	18.87	20.04	19.27	20.39	20.77	10.69	11.86	11.09	12.21	12.59
	3H	20.52	21.48	20.93	21.88	22.28	11.40	12.36	11.81	12.76	13.17
	4H	21.13	21.98	21.56	22.40	22.84	11.61	12.46	12.04	12.88	13.32
	6H	21.62	22.36	22.08	22.80	23.27	11.77	12.51	12.23	12.96	13.42
	8H	21.76	22.45	22.23	22.90	23.37	11.81	12.50	12.27	12.94	13.41
	12H	21.83	22.45	22.32	22.93	23.40	11.83	12.45	12.32	12.93	13.40
8H	4H	21.02	21.71	21.49	22.16	22.63	11.88	12.57	12.34	13.02	13.48
	6H	21.50	22.07	22.00	22.56	23.04	12.08	12.65	12.58	13.14	13.62
	8H	21.64	22.15	22.16	22.67	23.16	12.14	12.65	12.66	13.16	13.65
	12H	21.73	22.18	22.25	22.68	23.25	12.20	12.65	12.71	13.14	13.71
12H	4H	20.98	21.59	21.46	22.07	22.55	11.90	12.52	12.39	13.00	13.47
	6H	21.44	21.95	21.96	22.47	22.96	12.11	12.62	12.63	13.13	13.62
	8H	21.61	22.06	22.12	22.55	23.12	12.20	12.65	12.72	13.15	13.72