

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: P1056045

Luminaire Tested: S124R3DR-S575D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056045  
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-S575D850-X4F0-XX-UDD-F-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: -

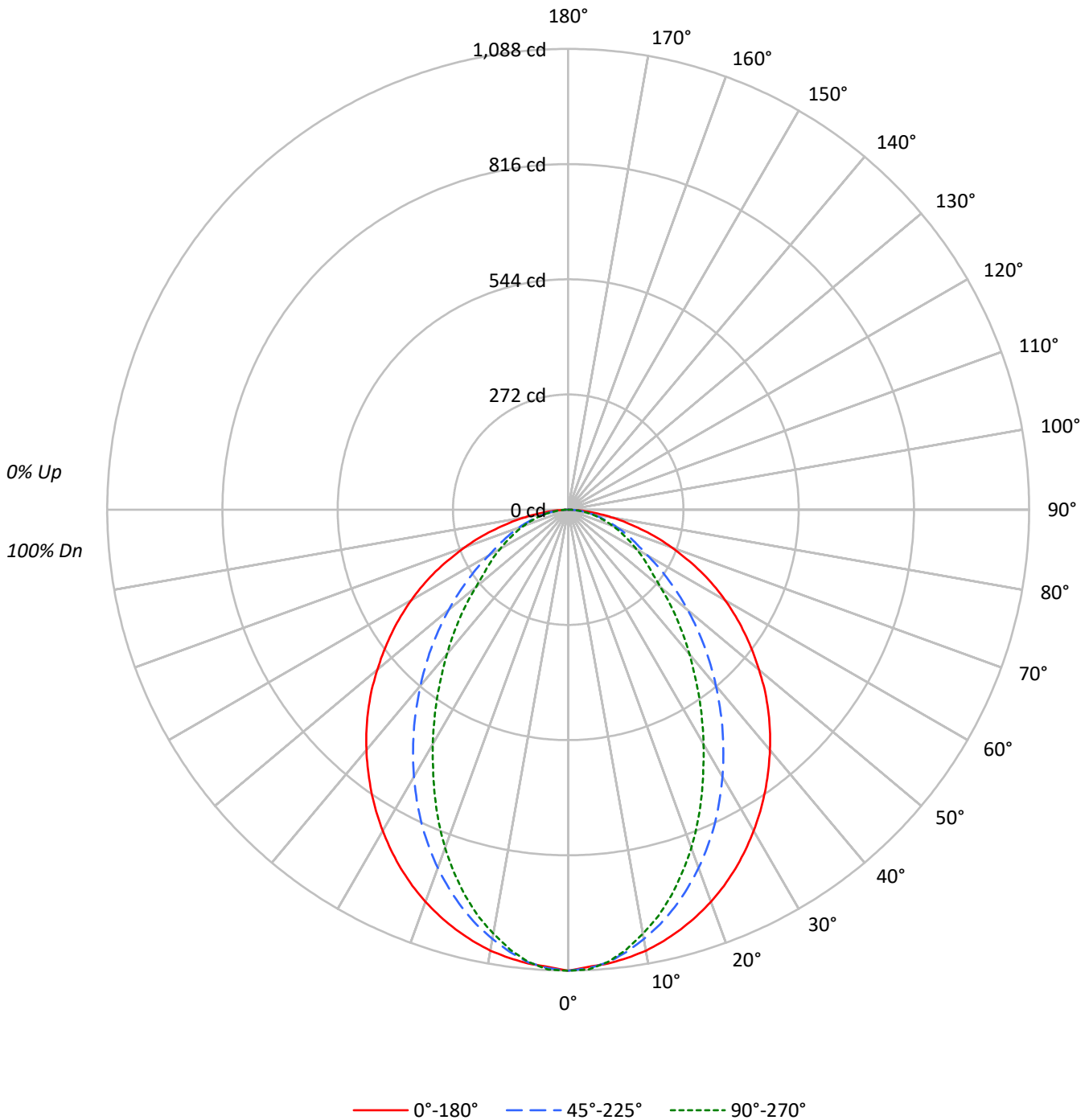
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2167.7 lumens  
Efficiency: N/A  
Efficacy: 113.5 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): 19.1  
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	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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86				86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73				73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63				63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55				55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49				49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43				43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39				39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35				35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32				32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29				29

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

	0°	45°	90°
0°	9623	9623	9623
5°	9546	9524	9517
10°	9490	9239	9124
15°	9390	8891	8621
20°	9269	8470	7995
25°	9117	7985	7266
30°	8936	7432	6525
35°	8748	6855	5809
40°	8550	6258	5139
45°	8341	5678	4516
50°	8085	5067	3899
55°	7838	4456	3542
60°	7563	3823	3285
65°	7222	3469	3067
70°	6708	3208	2898
75°	6074	2955	2736
80°	5300	2734	2571
85°	4058	2516	2353

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8341 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.3	4.7
10°-20°	274.9	12.7
20°-30°	380.6	17.6
30°-40°	408.5	18.8
40°-50°	371.5	17.1
50°-60°	292.5	13.5
60°-70°	200.2	9.2
70°-80°	107.8	5.0
80°-90°	30.5	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°	756.8	34.9
0°-40°	1165.2	53.8
0°-60°	1829.2	84.4
0°-90°	2167.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2167.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1088	1088	1088	1088	1088	
5°	1076	1088	1073	1068	1072	102
15°	1026	1015	971	945	942	289
25°	935	896	818	759	745	430
35°	810	747	635	558	538	507
45°	667	582	454	376	361	514
55°	508	412	289	233	230	455
65°	345	247	166	147	147	341
75°	178	108	86	79	80	190
85°	40	27	25	23	23	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1088.4	1088.4	1088.4	1088.4	1088.4
2.5°	1080.4	1093.2	1083.6	1085.2	1086.8
5°	1075.6	1087.6	1073.1	1067.5	1072.3
7.5°	1067.5	1075.6	1053.1	1042.7	1047.5
10°	1057.1	1058.7	1029.1	1013.9	1016.3
12.5°	1042.7	1038.7	1002.7	981.1	982.7
15°	1025.9	1014.7	971.4	945.0	941.8
17.5°	1006.7	988.3	937.0	903.4	897.0
20°	985.1	960.2	900.2	856.9	849.7
22.5°	961.0	929.0	860.1	808.9	798.5
25°	934.6	896.2	818.5	759.2	744.8
27.5°	905.8	860.9	773.6	708.8	690.3
30°	875.3	824.1	728.0	658.3	639.1
32.5°	844.1	786.4	681.5	607.9	587.8
35°	810.5	747.2	635.1	558.2	538.2
37.5°	776.0	706.4	587.8	510.1	489.3
40°	740.8	665.5	542.2	462.1	445.3
42.5°	704.8	623.9	497.3	417.2	402.0
45°	667.1	582.2	454.1	375.6	361.2
47.5°	628.7	539.8	410.0	336.4	322.7
50°	587.8	497.3	368.4	297.9	283.5
52.5°	548.6	454.1	328.4	260.3	253.1
55°	508.5	411.6	289.1	233.0	229.8
57.5°	468.5	369.2	253.1	211.4	208.2
60°	427.7	327.6	216.2	189.0	185.8
62.5°	386.8	286.7	189.0	167.4	165.8
65°	345.2	246.7	165.8	147.4	146.6
67.5°	301.1	208.2	145.0	129.7	128.9
70°	259.5	169.8	124.1	112.1	112.1
72.5°	220.2	134.5	104.9	95.3	95.3
75°	177.8	108.1	86.5	79.3	80.1
77.5°	140.2	84.9	69.7	64.9	64.9
80°	104.1	63.3	53.7	49.7	50.5
82.5°	70.5	44.0	38.4	36.0	36.0
85°	40.0	27.2	24.8	23.2	23.2
87.5°	14.4	12.8	12.0	10.4	11.2
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	19.01	20.53	19.37	20.85	21.16	14.78	16.31	15.15	16.62	16.94
	3H	20.78	22.15	21.16	22.48	22.84	16.40	17.77	16.77	18.09	18.46
	4H	21.45	22.74	21.85	23.09	23.47	17.03	18.31	17.43	18.66	19.04
	6H	21.96	23.15	22.38	23.52	23.91	17.53	18.72	17.94	19.08	19.47
	8H	22.13	23.26	22.55	23.65	24.05	17.70	18.83	18.12	19.22	19.62
	12H	22.23	23.31	22.66	23.69	24.12	17.82	18.90	18.25	19.29	19.71
4H	2H	19.10	20.39	19.50	20.74	21.12	15.50	16.79	15.90	17.14	17.52
	3H	21.05	22.12	21.46	22.52	22.92	17.31	18.38	17.72	18.78	19.18
	4H	21.80	22.77	22.24	23.18	23.62	18.05	19.01	18.48	19.43	19.87
	6H	22.44	23.28	22.90	23.72	24.18	18.67	19.50	19.12	19.95	20.41
	8H	22.66	23.44	23.12	23.89	24.35	18.88	19.67	19.34	20.11	20.58
	12H	22.81	23.51	23.29	23.99	24.46	19.05	19.75	19.53	20.23	20.70
8H	4H	21.86	22.65	22.32	23.09	23.56	18.44	19.22	18.90	19.67	20.13
	6H	22.56	23.21	23.06	23.70	24.18	19.17	19.82	19.67	20.31	20.79
	8H	22.83	23.41	23.34	23.92	24.41	19.46	20.04	19.97	20.55	21.04
	12H	23.05	23.56	23.55	24.05	24.62	19.70	20.22	20.21	20.71	21.27
12H	4H	21.85	22.55	22.33	23.03	23.50	18.49	19.19	18.97	19.67	20.14
	6H	22.55	23.14	23.07	23.65	24.13	19.25	19.84	19.77	20.35	20.83
	8H	22.86	23.38	23.37	23.87	24.43	19.60	20.12	20.11	20.61	21.17