

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: P1056213

Luminaire Tested: S124R3DR-H795D930-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056213  
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-H795D930-X4F0-XX-UDD-F-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

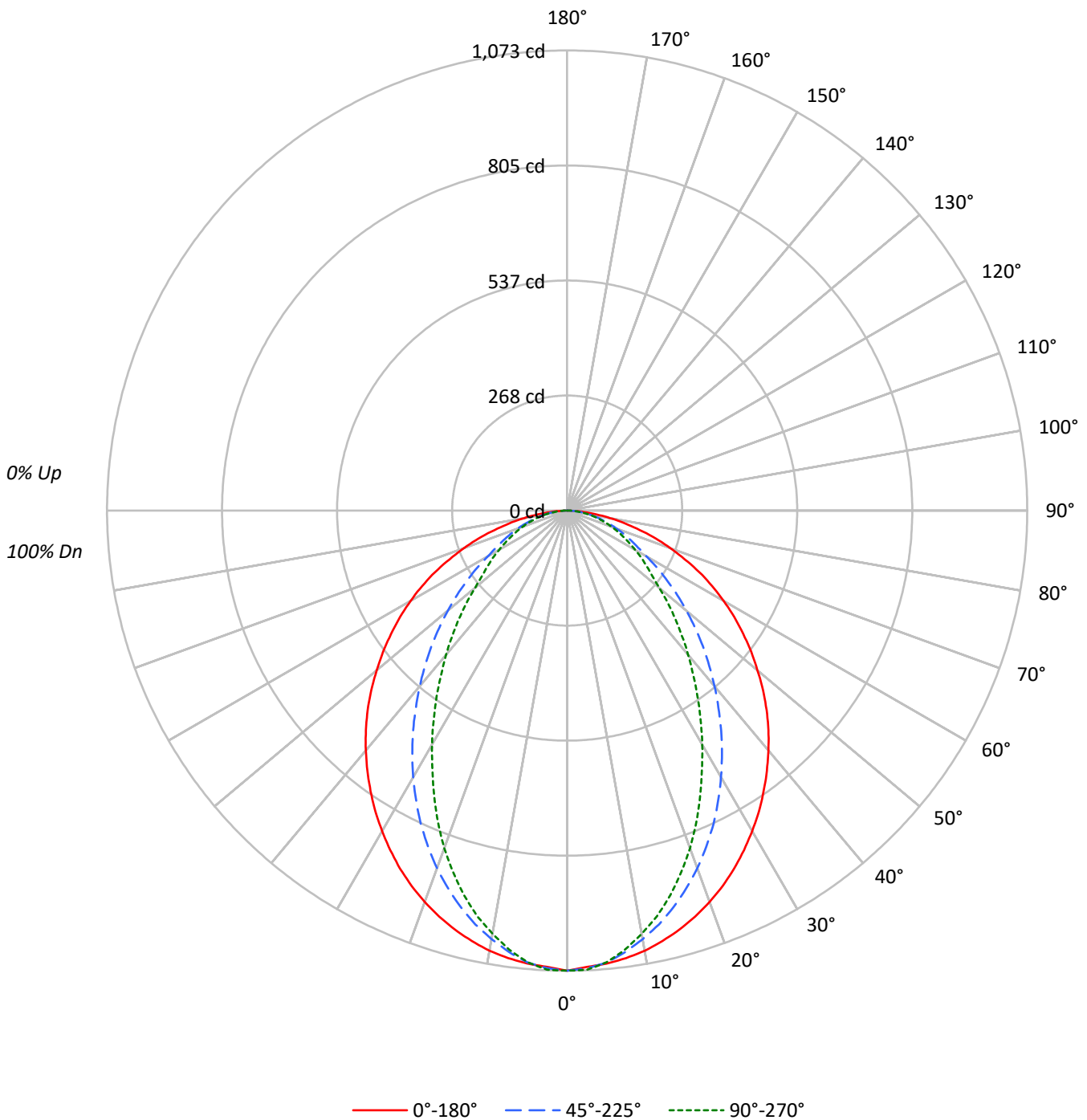
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2137.0 lumens  
Efficiency: N/A  
Efficacy: 89.8 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): 23.8  
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	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°	9486	9486	9486
5°	9410	9389	9383
10°	9357	9108	8995
15°	9258	8766	8499
20°	9137	8349	7882
25°	8989	7872	7162
30°	8809	7327	6432
35°	8624	6758	5727
40°	8429	6169	5067
45°	8224	5598	4453
50°	7971	4996	3844
55°	7727	4393	3493
60°	7455	3770	3239
65°	7119	3418	3023
70°	6613	3164	2856
75°	5988	2914	2699
80°	5224	2693	2530
85°	4007	2485	2323

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8224 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.9	4.7
10°-20°	271.0	12.7
20°-30°	375.2	17.6
30°-40°	402.7	18.8
40°-50°	366.2	17.1
50°-60°	288.4	13.5
60°-70°	197.4	9.2
70°-80°	106.3	5.0
80°-90°	30.1	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°	746.0	34.9
0°-40°	1148.7	53.8
0°-60°	1803.3	84.4
0°-90°	2137.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2137.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1073	1073	1073	1073	1073	
5°	1060	1072	1058	1052	1057	101
15°	1011	1000	958	932	928	285
25°	921	884	807	748	734	424
35°	799	737	626	550	531	500
45°	658	574	448	370	356	507
55°	501	406	285	230	227	448
65°	340	243	163	145	144	336
75°	175	107	85	78	79	187
85°	40	27	24	23	23	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1072.9	1072.9	1072.9	1072.9	1072.9
2.5°	1065.1	1077.7	1068.2	1069.8	1071.4
5°	1060.3	1072.2	1057.9	1052.4	1057.2
7.5°	1052.4	1060.3	1038.2	1027.9	1032.7
10°	1042.2	1043.7	1014.5	999.5	1001.9
12.5°	1027.9	1024.0	988.5	967.2	968.7
15°	1011.4	1000.3	957.7	931.6	928.5
17.5°	992.4	974.3	923.7	890.6	884.3
20°	971.1	946.6	887.4	844.8	837.7
22.5°	947.4	915.8	847.9	797.4	787.1
25°	921.4	883.5	806.9	748.5	734.2
27.5°	892.9	848.7	762.7	698.7	680.6
30°	862.9	812.4	717.7	649.0	630.0
32.5°	832.1	775.3	671.9	599.2	579.5
35°	799.0	736.6	626.1	550.3	530.6
37.5°	765.0	696.3	579.5	502.9	482.4
40°	730.3	656.1	534.5	455.5	439.0
42.5°	694.8	615.0	490.3	411.3	396.3
45°	657.7	574.0	447.7	370.3	356.1
47.5°	619.8	532.1	404.2	331.6	318.2
50°	579.5	490.3	363.2	293.7	279.5
52.5°	540.8	447.7	323.7	256.6	249.5
55°	501.3	405.8	285.0	229.7	226.6
57.5°	461.9	364.0	249.5	208.4	205.3
60°	421.6	322.9	213.2	186.3	183.2
62.5°	381.3	282.6	186.3	165.0	163.4
65°	340.3	243.2	163.4	145.3	144.5
67.5°	296.9	205.3	142.9	127.9	127.1
70°	255.8	167.4	122.4	110.5	110.5
72.5°	217.1	132.6	103.4	94.0	94.0
75°	175.3	106.6	85.3	78.2	79.0
77.5°	138.2	83.7	68.7	64.0	64.0
80°	102.6	62.4	52.9	48.9	49.7
82.5°	69.5	43.4	37.9	35.5	35.5
85°	39.5	26.8	24.5	22.9	22.9
87.5°	14.2	12.6	11.8	10.3	11.1
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	18.96	20.48	19.32	20.80	21.11	14.74	16.26	15.10	16.57	16.89
	3H	20.73	22.10	21.11	22.43	22.79	16.35	17.72	16.72	18.04	18.41
	4H	21.41	22.69	21.81	23.04	23.42	16.98	18.26	17.38	18.61	18.99
	6H	21.92	23.10	22.33	23.47	23.86	17.48	18.67	17.89	19.03	19.42
	8H	22.08	23.21	22.50	23.60	24.00	17.65	18.78	18.07	19.17	19.57
	12H	22.18	23.26	22.61	23.64	24.07	17.77	18.85	18.20	19.24	19.67
4H	2H	19.05	20.34	19.45	20.69	21.07	15.45	16.74	15.85	17.09	17.47
	3H	21.00	22.07	21.41	22.47	22.87	17.26	18.33	17.67	18.73	19.13
	4H	21.75	22.72	22.19	23.13	23.57	18.00	18.96	18.43	19.38	19.82
	6H	22.39	23.23	22.85	23.67	24.13	18.62	19.45	19.07	19.90	20.36
	8H	22.61	23.39	23.07	23.84	24.30	18.83	19.62	19.29	20.06	20.53
	12H	22.76	23.47	23.25	23.94	24.41	19.00	19.70	19.48	20.18	20.65
8H	4H	21.81	22.60	22.28	23.04	23.51	18.39	19.17	18.85	19.62	20.08
	6H	22.51	23.16	23.01	23.65	24.13	19.12	19.77	19.62	20.26	20.74
	8H	22.78	23.36	23.29	23.87	24.36	19.41	19.99	19.92	20.50	20.99
	12H	23.00	23.51	23.51	24.00	24.57	19.65	20.17	20.16	20.66	21.22
12H	4H	21.80	22.50	22.29	22.98	23.45	18.44	19.15	18.93	19.62	20.09
	6H	22.50	23.09	23.02	23.60	24.08	19.20	19.79	19.72	20.29	20.78
	8H	22.81	23.33	23.32	23.82	24.38	19.55	20.07	20.06	20.56	21.12