

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: P1055784

Luminaire Tested: S123R3DR-H560D935-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055784  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H560D935-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

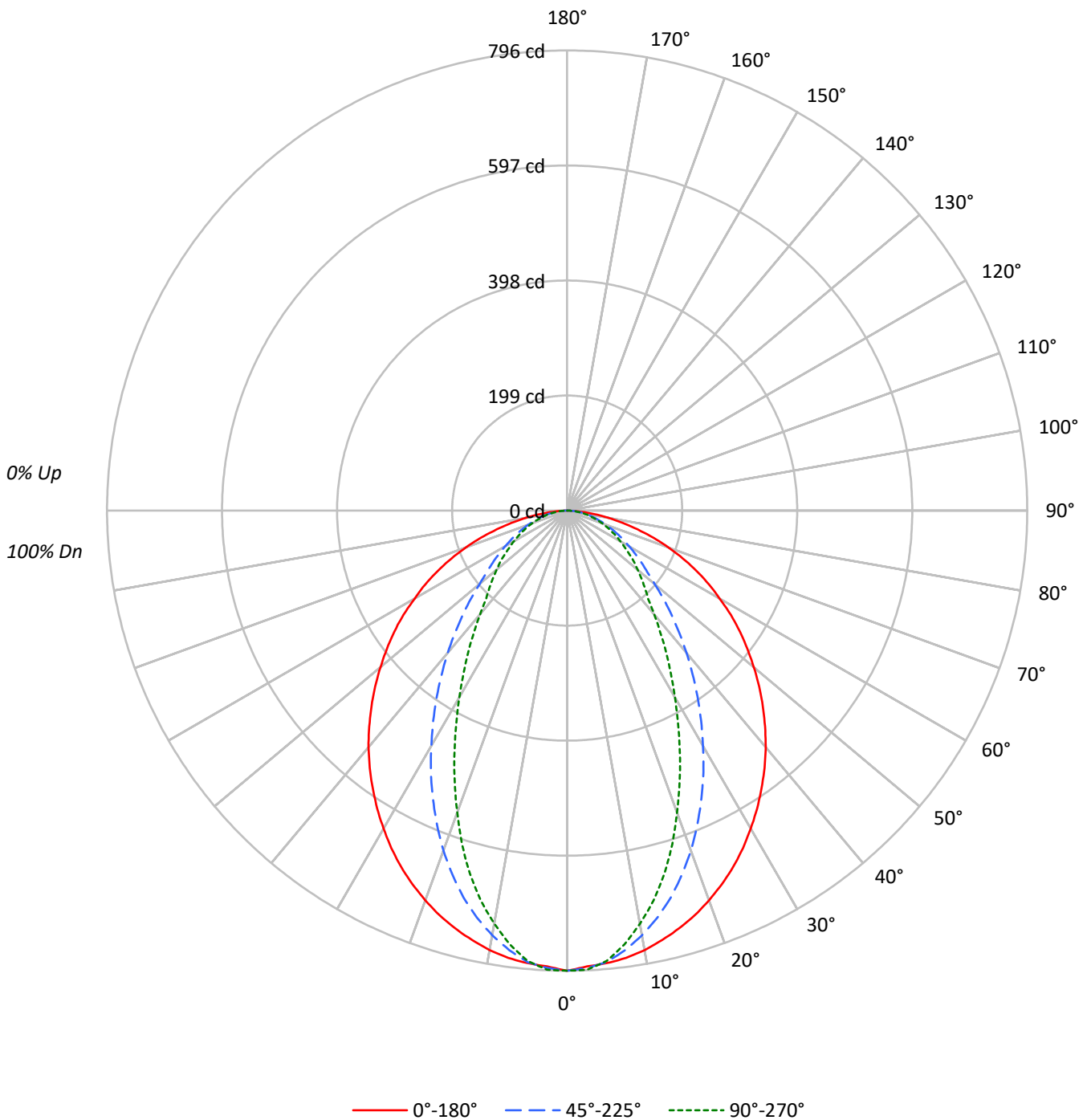
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1396.0 lumens  
Efficiency: N/A  
Efficacy: 80.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.3  
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	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

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

	0°	45°	90°
0°	9597	9597	9597
5°	9510	9490	9468
10°	9454	9133	8884
15°	9340	8650	8114
20°	9204	8028	7134
25°	9045	7310	6138
30°	8843	6539	5189
35°	8631	5783	4382
40°	8414	5050	3683
45°	8162	4355	3248
50°	7906	3708	2982
55°	7670	3304	2754
60°	7350	2985	2570
65°	7049	2733	2411
70°	6567	2517	2267
75°	5879	2329	2133
80°	5041	2152	1986
85°	3541	1978	1895

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8162 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.8	5.3
10°-20°	195.2	14.0
20°-30°	257.2	18.4
30°-40°	261.0	18.7
40°-50°	226.9	16.3
50°-60°	177.8	12.7
60°-70°	120.7	8.6
70°-80°	65.4	4.7
80°-90°	18.0	1.3
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°	526.2	37.7
0°-40°	787.2	56.4
0°-60°	1191.8	85.4
0°-90°	1396.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1396.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	796	796	796	796	796	
5°	786	795	784	777	782	75
15°	748	738	693	659	650	211
25°	680	639	550	481	461	313
35°	586	517	393	318	298	367
45°	479	384	255	197	190	369
55°	365	254	157	134	131	326
65°	247	137	96	86	84	244
75°	126	63	50	46	46	135
85°	26	16	14	13	14	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	796.0	796.0	796.0	796.0	796.0
2.5°	789.4	799.5	791.8	792.4	794.8
5°	785.8	795.4	784.1	776.9	782.3
7.5°	780.5	787.6	766.8	755.5	757.3
10°	772.2	774.5	746.0	728.1	725.7
12.5°	760.8	756.7	721.0	694.8	690.6
15°	748.3	737.6	693.0	659.0	650.1
17.5°	734.1	716.2	660.2	618.6	604.9
20°	717.4	692.4	625.7	572.7	556.0
22.5°	699.5	667.4	588.2	525.7	508.4
25°	679.9	638.8	549.5	481.0	461.4
27.5°	658.4	610.2	510.2	437.0	415.0
30°	635.2	580.5	469.7	394.1	372.7
32.5°	611.4	548.9	431.0	354.2	333.4
35°	586.4	516.8	392.9	317.9	297.7
37.5°	560.8	484.0	356.0	283.4	264.3
40°	534.6	450.7	320.9	251.2	234.0
42.5°	506.6	417.3	287.0	220.9	207.8
45°	478.7	384.0	255.4	197.1	190.5
47.5°	450.7	350.1	225.6	180.4	174.4
50°	421.5	317.3	197.7	164.9	159.0
52.5°	392.9	285.2	174.4	150.0	145.9
55°	364.9	253.6	157.2	134.0	131.0
57.5°	335.8	222.7	139.9	121.4	117.9
60°	304.8	192.9	123.8	108.4	106.6
62.5°	276.8	164.9	109.5	97.0	95.3
65°	247.1	136.9	95.8	85.7	84.5
67.5°	216.7	113.7	83.3	75.0	74.4
70°	186.3	95.8	71.4	64.9	64.3
72.5°	156.6	79.2	60.1	56.0	54.8
75°	126.2	63.1	50.0	46.4	45.8
77.5°	98.8	48.8	39.9	37.5	36.9
80°	72.6	36.3	31.0	29.2	28.6
82.5°	47.6	25.0	22.0	20.8	20.8
85°	25.6	15.5	14.3	13.1	13.7
87.5°	8.9	6.5	6.5	6.0	6.5
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	18.42	19.91	18.78	20.22	20.54	13.56	15.05	13.93	15.37	15.68
	3H	20.30	21.64	20.68	21.97	22.33	15.19	16.53	15.57	16.86	17.22
	4H	21.06	22.31	21.46	22.66	23.04	15.83	17.08	16.23	17.43	17.81
	6H	21.62	22.78	22.03	23.15	23.54	16.32	17.48	16.73	17.84	18.24
	8H	21.79	22.90	22.22	23.29	23.69	16.49	17.59	16.91	17.98	18.38
	12H	21.89	22.95	22.32	23.33	23.76	16.61	17.67	17.04	18.05	18.48
4H	2H	18.46	19.72	18.86	20.07	20.45	14.29	15.55	14.69	15.89	16.27
	3H	20.48	21.52	20.89	21.92	22.32	16.11	17.16	16.52	17.56	17.96
	4H	21.30	22.24	21.73	22.65	23.09	16.86	17.80	17.29	18.21	18.65
	6H	21.98	22.80	22.44	23.24	23.70	17.47	18.28	17.93	18.73	19.19
	8H	22.21	22.97	22.67	23.42	23.88	17.68	18.45	18.15	18.89	19.36
	12H	22.36	23.04	22.84	23.52	23.99	17.85	18.53	18.33	19.01	19.48
8H	4H	21.32	22.08	21.78	22.53	23.00	17.24	18.00	17.71	18.45	18.92
	6H	22.05	22.68	22.55	23.17	23.65	17.97	18.60	18.47	19.09	19.57
	8H	22.32	22.88	22.83	23.39	23.88	18.26	18.82	18.77	19.33	19.82
	12H	22.53	23.03	23.04	23.52	24.08	18.50	19.00	19.01	19.49	20.06
12H	4H	21.31	21.99	21.79	22.47	22.94	17.30	17.98	17.78	18.46	18.93
	6H	22.03	22.60	22.55	23.11	23.60	18.05	18.62	18.57	19.13	19.62
	8H	22.34	22.84	22.85	23.33	23.90	18.40	18.90	18.91	19.39	19.96