

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: P1439777

Luminaire Tested: S123DR-H290D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439777  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DR-H290D950-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

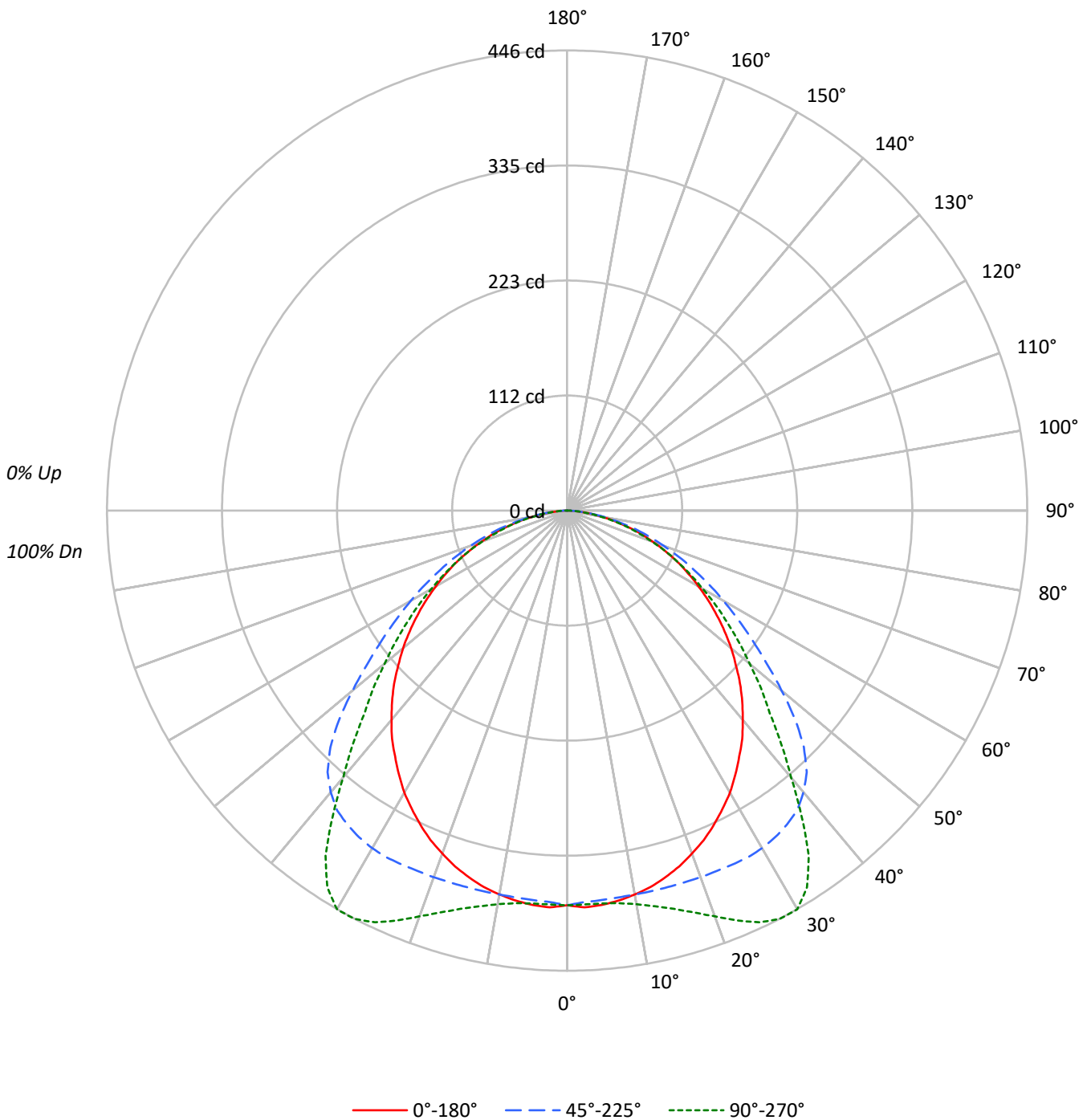
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1157.0 lumens  
Efficiency: N/A  
Efficacy: 98.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	4612	4612	4612
5°	4644	4587	4624
10°	4625	4625	4741
15°	4592	4716	4988
20°	4538	4852	5369
25°	4474	5036	5857
30°	4395	5260	6212
35°	4280	5468	6009
40°	4166	5609	5316
45°	4041	5531	4735
50°	3896	5090	4333
55°	3725	4608	3983
60°	3549	4217	3663
65°	3375	3860	3386
70°	3123	3500	3067
75°	2818	3116	2744
80°	2361	2611	2250
85°	1812	1909	1701

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 5531 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.4	3.1
10°-20°	108.2	9.4
20°-30°	177.4	15.3
30°-40°	224.4	19.4
40°-50°	219.2	18.9
50°-60°	180.1	15.6
60°-70°	127.0	11.0
70°-80°	67.7	5.9
80°-90°	16.5	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°	322.1	27.8
0°-40°	546.4	47.2
0°-60°	945.8	81.7
0°-90°	1157.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1157.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	382	382	382	382	382	
5°	384	382	379	383	382	36
15°	368	370	378	395	400	104
25°	336	346	379	424	440	155
35°	291	311	372	415	408	182
45°	237	264	324	293	278	183
55°	177	204	219	197	190	159
65°	118	135	135	123	119	117
75°	60	68	67	60	59	64
85°	13	14	14	13	12	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	382.5	382.5	382.5	382.5	382.5
2.5°	384.9	383.7	379.8	383.3	382.1
5°	383.7	382.1	379.0	382.9	382.1
7.5°	381.4	380.6	378.2	384.1	383.7
10°	377.8	377.4	377.8	386.5	387.3
12.5°	373.8	374.2	377.8	390.1	392.8
15°	367.9	369.9	377.8	394.8	399.6
17.5°	361.6	364.7	377.8	401.1	408.3
20°	353.7	359.2	378.2	407.9	418.5
22.5°	345.8	352.5	378.2	417.0	430.0
25°	336.3	346.1	378.6	424.5	440.3
27.5°	326.0	337.8	379.0	430.4	446.2
30°	315.7	329.9	377.8	432.8	446.2
32.5°	303.4	320.8	375.4	428.8	432.8
35°	290.8	310.9	371.5	414.6	408.3
37.5°	278.9	300.3	366.3	388.5	373.4
40°	264.7	288.8	356.4	355.2	337.8
42.5°	251.2	276.5	343.8	321.6	307.4
45°	237.0	263.9	324.4	292.7	277.7
47.5°	221.9	250.0	299.9	265.4	254.8
50°	207.7	235.8	271.4	240.5	231.0
52.5°	192.3	220.7	244.1	218.4	210.1
55°	177.2	203.7	219.2	197.0	189.5
57.5°	162.2	187.1	196.2	176.8	170.9
60°	147.2	169.7	174.9	158.2	151.9
62.5°	132.5	153.5	155.1	140.4	134.9
65°	118.3	135.3	135.3	123.4	118.7
67.5°	103.3	117.9	117.1	106.0	103.3
70°	88.6	100.9	99.3	90.2	87.0
72.5°	74.8	83.9	82.7	75.6	72.0
75°	60.5	68.0	66.9	60.5	58.9
77.5°	47.1	52.2	51.0	46.7	45.5
80°	34.0	38.0	37.6	34.4	32.4
82.5°	22.9	24.9	24.5	22.5	21.4
85°	13.1	14.2	13.8	12.7	12.3
87.5°	5.1	5.9	6.3	5.9	5.5
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	16.95	18.55	17.31	18.87	19.18	16.68	18.28	17.04	18.59	18.91
	3H	18.52	19.97	18.90	20.29	20.65	18.19	19.64	18.57	19.96	20.32
	4H	19.07	20.43	19.47	20.78	21.15	18.73	20.09	19.12	20.43	20.81
	6H	19.44	20.69	19.85	21.06	21.45	19.08	20.34	19.49	20.71	21.10
	8H	19.53	20.74	19.96	21.12	21.52	19.18	20.38	19.60	20.77	21.17
	12H	19.59	20.74	20.02	21.12	21.55	19.23	20.38	19.66	20.76	21.19
4H	2H	17.59	18.95	17.99	19.30	19.67	17.37	18.73	17.77	19.08	19.46
	3H	19.40	20.53	19.81	20.93	21.33	19.09	20.23	19.50	20.62	21.02
	4H	20.08	21.11	20.52	21.52	21.96	19.73	20.75	20.16	21.17	21.60
	6H	20.56	21.46	21.02	21.90	22.35	20.19	21.08	20.64	21.52	21.98
	8H	20.70	21.53	21.16	21.98	22.44	20.31	21.15	20.77	21.59	22.06
	12H	20.78	21.53	21.26	22.01	22.48	20.39	21.14	20.87	21.62	22.09
8H	4H	20.35	21.18	20.81	21.63	22.09	20.03	20.87	20.50	21.31	21.78
	6H	20.94	21.63	21.43	22.12	22.60	20.60	21.29	21.09	21.78	22.25
	8H	21.13	21.75	21.64	22.26	22.75	20.77	21.40	21.28	21.90	22.39
	12H	21.27	21.82	21.78	22.31	22.88	20.90	21.45	21.41	21.94	22.51
12H	4H	20.36	21.11	20.85	21.59	22.06	20.06	20.81	20.54	21.29	21.76
	6H	20.97	21.59	21.48	22.10	22.59	20.64	21.26	21.15	21.77	22.26
	8H	21.21	21.76	21.72	22.25	22.82	20.87	21.42	21.38	21.91	22.47