

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: P1439909

Luminaire Tested: S124DR-H290D930-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439909
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-H290D930-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

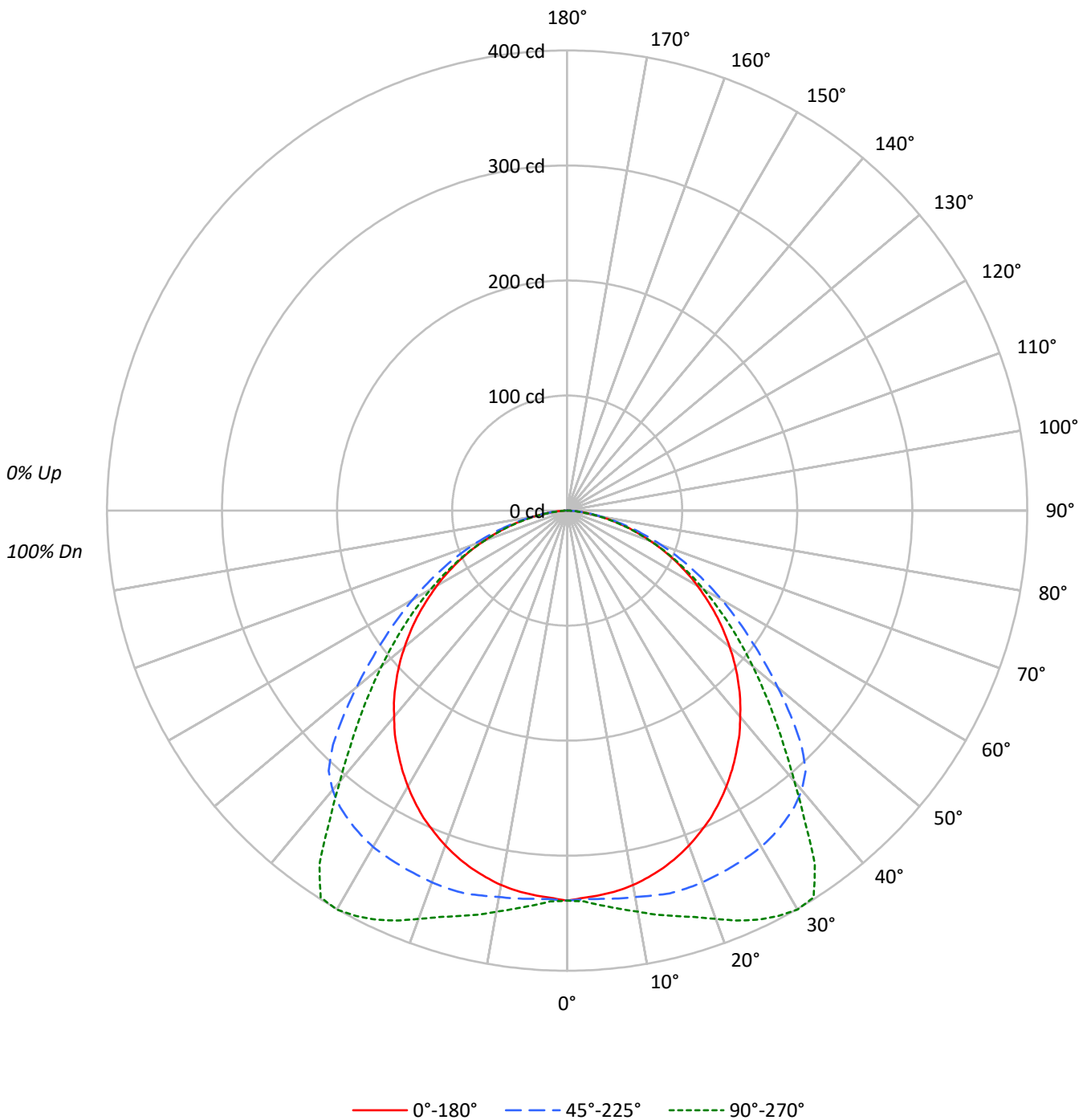
Lumens per Lamp: N/A
Luminaire Lumens: 1030.7 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	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°	2998	2998	2998
5°	2978	3007	3057
10°	2967	3062	3179
15°	2946	3153	3339
20°	2915	3235	3554
25°	2877	3328	3828
30°	2827	3446	4088
35°	2766	3560	4052
40°	2701	3661	3546
45°	2630	3600	3187
50°	2536	3287	2898
55°	2432	2990	2647
60°	2313	2743	2424
65°	2172	2500	2213
70°	1988	2236	1978
75°	1752	1920	1718
80°	1441	1543	1390
85°	1014	1045	943

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3600 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.5	3.2
10°-20°	97.5	9.5
20°-30°	158.7	15.4
30°-40°	201.6	19.6
40°-50°	196.4	19.1
50°-60°	161.0	15.6
60°-70°	112.4	10.9
70°-80°	57.7	5.6
80°-90°	12.8	1.2
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°	288.8	28.0
0°-40°	490.4	47.6
0°-60°	847.8	82.3
0°-90°	1030.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1030.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	336	340	339	341	344	32
15°	322	332	344	358	365	91
25°	295	314	341	376	392	136
35°	256	281	330	378	375	160
45°	210	236	288	264	255	162
55°	158	182	194	178	172	141
65°	104	119	120	110	106	103
75°	51	57	56	52	50	55
85°	10	10	10	10	9	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	339.1	339.1	339.1	339.1	339.1
2.5°	336.8	341.1	338.1	339.5	340.1
5°	335.5	340.5	338.8	341.1	344.5
7.5°	333.5	339.1	340.1	344.8	349.1
10°	330.5	337.1	341.1	349.1	354.1
12.5°	326.5	334.8	342.8	353.8	359.8
15°	321.8	331.8	344.5	358.1	364.8
17.5°	316.2	328.2	344.5	361.4	370.4
20°	309.8	323.8	343.8	365.8	377.7
22.5°	302.5	319.2	342.5	370.8	385.7
25°	294.9	313.8	341.1	376.4	392.4
27.5°	286.2	307.5	339.5	380.7	397.4
30°	276.9	299.9	337.5	382.7	400.4
32.5°	266.9	290.9	334.1	382.7	398.7
35°	256.3	281.2	329.8	377.7	375.4
37.5°	245.9	270.9	324.5	353.4	338.8
40°	234.0	259.9	317.2	319.2	307.2
42.5°	222.7	248.3	306.9	290.2	279.6
45°	210.3	236.3	287.9	263.9	254.9
47.5°	197.7	223.3	263.3	240.3	232.0
50°	184.4	210.3	239.0	218.0	210.7
52.5°	171.4	196.4	215.7	197.4	190.4
55°	157.8	182.0	194.0	177.7	171.7
57.5°	144.1	167.4	174.4	159.4	153.8
60°	130.8	151.8	155.1	142.1	137.1
62.5°	117.5	135.5	136.8	125.5	121.1
65°	103.8	118.8	119.5	109.8	105.8
67.5°	90.5	102.8	102.8	94.5	91.2
70°	76.9	87.2	86.5	79.9	76.5
72.5°	63.9	71.2	70.6	65.6	63.2
75°	51.3	56.9	56.2	52.3	50.3
77.5°	39.3	43.3	42.6	39.9	38.3
80°	28.3	30.6	30.3	28.3	27.3
82.5°	18.6	20.0	19.3	18.0	17.3
85°	10.0	10.3	10.3	9.7	9.3
87.5°	3.7	3.7	3.7	3.7	3.3
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	15.50	17.10	15.86	17.41	17.73	15.28	16.88	15.65	17.20	17.51
	3H	17.00	18.44	17.38	18.77	19.13	16.75	18.19	17.13	18.52	18.88
	4H	17.51	18.86	17.90	19.21	19.58	17.25	18.60	17.65	18.95	19.33
	6H	17.83	19.08	18.24	19.44	19.83	17.57	18.82	17.98	19.18	19.58
	8H	17.91	19.10	18.33	19.49	19.89	17.64	18.84	18.07	19.23	19.63
	12H	17.95	19.09	18.38	19.47	19.90	17.68	18.82	18.11	19.20	19.63
4H	2H	16.12	17.47	16.52	17.82	18.20	15.95	17.31	16.35	17.65	18.03
	3H	17.85	18.98	18.26	19.38	19.78	17.62	18.75	18.03	19.14	19.55
	4H	18.48	19.50	18.91	19.91	20.35	18.22	19.23	18.65	19.65	20.08
	6H	18.91	19.79	19.36	20.23	20.69	18.63	19.52	19.08	19.96	20.41
	8H	19.02	19.85	19.48	20.29	20.76	18.73	19.56	19.19	20.00	20.47
	12H	19.08	19.83	19.56	20.30	20.77	18.79	19.53	19.27	20.01	20.48
8H	4H	18.72	19.55	19.18	19.99	20.46	18.49	19.32	18.95	19.76	20.23
	6H	19.24	19.93	19.74	20.42	20.90	18.99	19.68	19.48	20.16	20.64
	8H	19.41	20.02	19.92	20.53	21.02	19.14	19.75	19.65	20.26	20.75
	12H	19.52	20.06	20.03	20.55	21.12	19.24	19.78	19.75	20.27	20.83
12H	4H	18.73	19.47	19.21	19.95	20.42	18.51	19.25	18.99	19.73	20.20
	6H	19.27	19.88	19.78	20.39	20.88	19.02	19.64	19.53	20.14	20.63
	8H	19.48	20.02	19.98	20.51	21.07	19.21	19.76	19.72	20.25	20.81