

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: P1439908

Luminaire Tested: S124DR-H290D927-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439908
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-H290D927-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

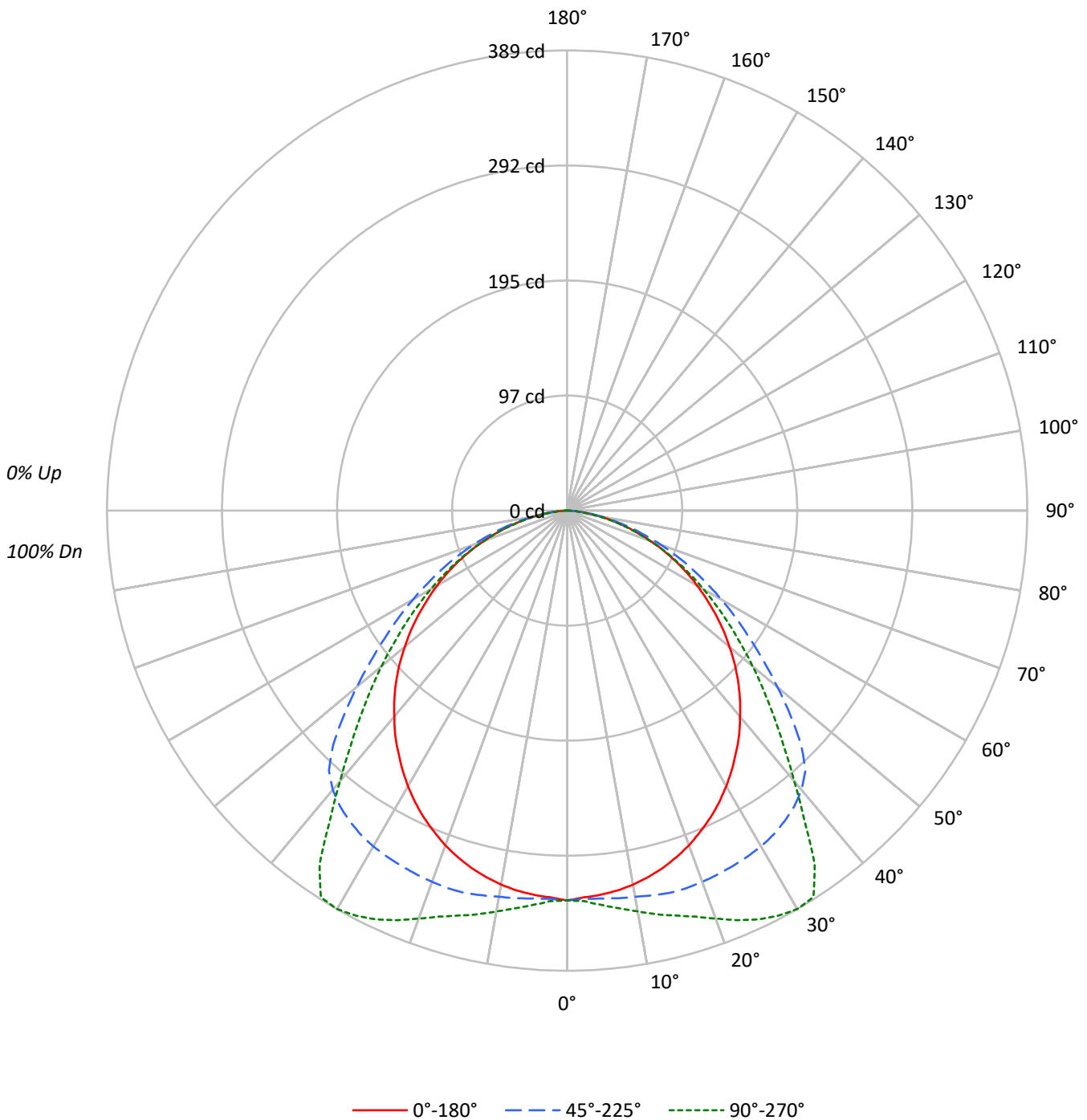
Lumens per Lamp: N/A
Luminaire Lumens: 1001.5 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (A_{in}): 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	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°	2913	2913	2913
5°	2893	2922	2971
10°	2883	2976	3089
15°	2862	3064	3244
20°	2833	3143	3453
25°	2795	3234	3720
30°	2746	3348	3971
35°	2688	3459	3937
40°	2623	3557	3445
45°	2556	3497	3097
50°	2463	3194	2816
55°	2363	2906	2573
60°	2247	2665	2355
65°	2111	2429	2151
70°	1931	2174	1923
75°	1701	1869	1667
80°	1400	1497	1349
85°	984	1014	923

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3497 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.6	3.2
10°-20°	94.8	9.5
20°-30°	154.2	15.4
30°-40°	195.9	19.6
40°-50°	190.9	19.1
50°-60°	156.5	15.6
60°-70°	109.2	10.9
70°-80°	56.0	5.6
80°-90°	12.4	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°	280.6	28.0
0°-40°	476.5	47.6
0°-60°	823.8	82.3
0°-90°	1001.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1001.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	330	330	330	330	330	
5°	326	331	329	332	335	31
15°	313	322	335	348	354	88
25°	286	305	332	366	381	132
35°	249	273	320	367	365	156
45°	204	230	280	256	248	157
55°	153	177	188	173	167	137
65°	101	115	116	107	103	100
75°	50	55	55	51	49	53
85°	10	10	10	9	9	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	329.5	329.5	329.5	329.5	329.5
2.5°	327.3	331.5	328.5	329.8	330.5
5°	326.0	330.8	329.2	331.5	334.7
7.5°	324.0	329.5	330.5	335.0	339.2
10°	321.1	327.6	331.5	339.2	344.1
12.5°	317.2	325.3	333.1	343.7	349.6
15°	312.7	322.4	334.7	348.0	354.4
17.5°	307.2	318.8	334.7	351.2	359.9
20°	301.1	314.6	334.0	355.4	367.0
22.5°	293.9	310.1	332.8	360.2	374.8
25°	286.5	304.9	331.5	365.7	381.3
27.5°	278.1	298.8	329.8	369.9	386.1
30°	269.0	291.4	327.9	371.9	389.0
32.5°	259.3	282.6	324.7	371.9	387.4
35°	249.0	273.3	320.5	367.0	364.8
37.5°	239.0	263.2	315.3	343.4	329.2
40°	227.3	252.6	308.2	310.1	298.5
42.5°	216.3	241.2	298.2	282.0	271.6
45°	204.4	229.6	279.7	256.4	247.7
47.5°	192.1	217.0	255.8	233.5	225.4
50°	179.1	204.4	232.2	211.8	204.7
52.5°	166.5	190.8	209.5	191.8	185.0
55°	153.3	176.9	188.5	172.7	166.9
57.5°	140.0	162.7	169.4	154.9	149.4
60°	127.1	147.5	150.7	138.1	133.2
62.5°	114.2	131.6	132.9	121.9	117.7
65°	100.9	115.4	116.1	106.7	102.8
67.5°	88.0	99.9	99.9	91.8	88.6
70°	74.7	84.7	84.1	77.6	74.4
72.5°	62.1	69.2	68.6	63.7	61.4
75°	49.8	55.3	54.7	50.8	48.8
77.5°	38.2	42.0	41.4	38.8	37.2
80°	27.5	29.8	29.4	27.5	26.5
82.5°	18.1	19.4	18.8	17.5	16.8
85°	9.7	10.0	10.0	9.4	9.1
87.5°	3.6	3.6	3.6	3.6	3.2
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	15.40	17.00	15.77	17.31	17.63	15.18	16.78	15.55	17.10	17.41
	3H	16.90	18.34	17.28	18.67	19.03	16.65	18.09	17.03	18.42	18.78
	4H	17.41	18.76	17.80	19.11	19.48	17.15	18.50	17.55	18.85	19.23
	6H	17.73	18.98	18.14	19.34	19.74	17.47	18.72	17.88	19.08	19.48
	8H	17.81	19.00	18.23	19.39	19.79	17.54	18.74	17.97	19.13	19.53
	12H	17.85	18.99	18.28	19.37	19.80	17.58	18.72	18.01	19.10	19.53
4H	2H	16.02	17.38	16.42	17.72	18.10	15.85	17.21	16.25	17.55	17.93
	3H	17.75	18.88	18.16	19.28	19.68	17.52	18.65	17.93	19.04	19.45
	4H	18.38	19.40	18.81	19.81	20.25	18.12	19.13	18.55	19.55	19.98
	6H	18.81	19.69	19.26	20.13	20.59	18.53	19.41	18.98	19.86	20.31
	8H	18.92	19.75	19.38	20.19	20.66	18.63	19.46	19.09	19.90	20.37
	12H	18.98	19.73	19.47	20.20	20.67	18.69	19.43	19.17	19.91	20.38
8H	4H	18.62	19.45	19.08	19.89	20.36	18.39	19.22	18.85	19.66	20.13
	6H	19.15	19.83	19.64	20.32	20.80	18.89	19.58	19.38	20.06	20.54
	8H	19.31	19.93	19.82	20.43	20.92	19.04	19.65	19.55	20.16	20.65
	12H	19.42	19.96	19.93	20.45	21.02	19.14	19.68	19.65	20.17	20.73
12H	4H	18.63	19.37	19.11	19.85	20.32	18.41	19.15	18.89	19.63	20.10
	6H	19.17	19.78	19.68	20.29	20.78	18.92	19.54	19.43	20.04	20.53
	8H	19.38	19.92	19.88	20.41	20.97	19.11	19.66	19.62	20.15	20.71