

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: P1439956

Luminaire Tested: S124DR-S290D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439956
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-S290D940-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

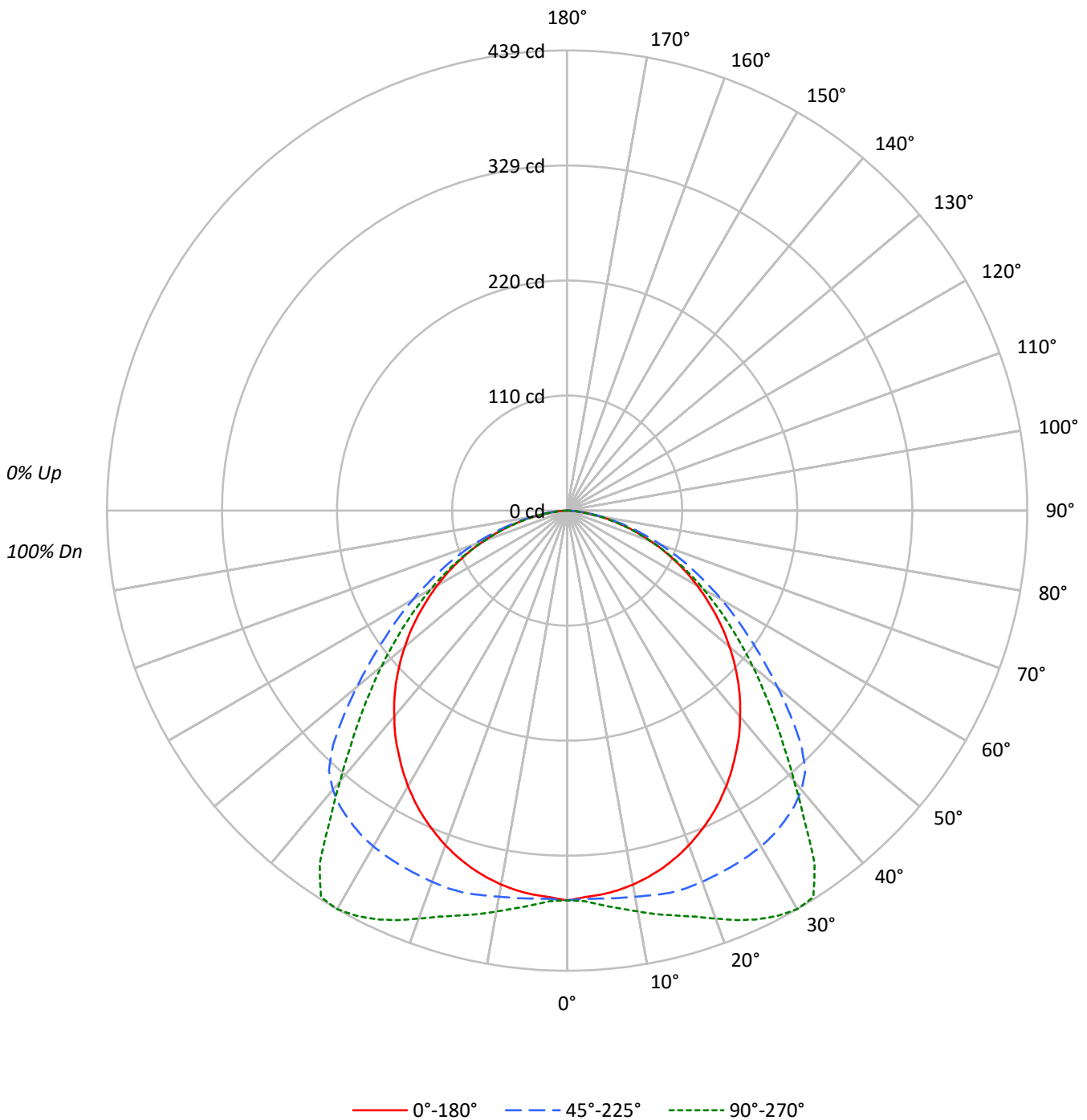
Lumens per Lamp: N/A
Luminaire Lumens: 1130.0 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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													100															
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85													85															
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71													71															
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60													60															
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52													52															
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45													45															
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39													39															
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35													35															
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31													31															
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28													28															
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25													25															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3287	3287	3287
5°	3264	3297	3352
10°	3253	3358	3486
15°	3230	3457	3660
20°	3196	3546	3897
25°	3154	3649	4197
30°	3099	3777	4482
35°	3033	3903	4443
40°	2960	4013	3887
45°	2883	3946	3495
50°	2781	3604	3177
55°	2667	3279	2903
60°	2536	3006	2658
65°	2381	2741	2427
70°	2179	2453	2169
75°	1920	2108	1882
80°	1578	1690	1522
85°	1106	1146	1035

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3946 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.7	3.2
10°-20°	106.9	9.5
20°-30°	174.0	15.4
30°-40°	221.0	19.6
40°-50°	215.4	19.1
50°-60°	176.6	15.6
60°-70°	123.2	10.9
70°-80°	63.2	5.6
80°-90°	14.0	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°	316.6	28.0
0°-40°	537.6	47.6
0°-60°	929.6	82.3
0°-90°	1130.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1130.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	372	372	372	372	372	
5°	368	373	372	374	378	35
15°	353	364	378	393	400	99
25°	323	344	374	413	430	149
35°	281	308	362	414	412	176
45°	231	259	316	289	280	178
55°	173	200	213	195	188	155
65°	114	130	131	120	116	113
75°	56	62	62	57	55	60
85°	11	11	11	11	10	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	371.8	371.8	371.8	371.8	371.8
2.5°	369.3	374.0	370.7	372.2	372.9
5°	367.8	373.3	371.5	374.0	377.7
7.5°	365.6	371.8	372.9	378.0	382.8
10°	362.3	369.6	374.0	382.8	388.3
12.5°	358.0	367.1	375.8	387.9	394.5
15°	352.9	363.8	377.7	392.6	399.9
17.5°	346.7	359.8	377.7	396.3	406.1
20°	339.7	355.0	376.9	401.0	414.2
22.5°	331.7	349.9	375.5	406.5	422.9
25°	323.3	344.1	374.0	412.7	430.2
27.5°	313.8	337.2	372.2	417.4	435.7
30°	303.6	328.8	370.0	419.6	439.0
32.5°	292.6	318.9	366.4	419.6	437.1
35°	281.0	308.3	361.6	414.2	411.6
37.5°	269.7	297.0	355.8	387.5	371.5
40°	256.5	285.0	347.7	349.9	336.8
42.5°	244.1	272.2	336.4	318.2	306.5
45°	230.6	259.1	315.6	289.4	279.5
47.5°	216.7	244.8	288.6	263.5	254.3
50°	202.2	230.6	262.0	239.0	231.0
52.5°	187.9	215.3	236.5	216.4	208.7
55°	173.0	199.6	212.7	194.9	188.3
57.5°	158.0	183.5	191.2	174.8	168.6
60°	143.4	166.4	170.0	155.8	150.3
62.5°	128.8	148.5	150.0	137.6	132.8
65°	113.8	130.3	131.0	120.4	116.0
67.5°	99.3	112.8	112.8	103.6	100.0
70°	84.3	95.6	94.9	87.6	83.9
72.5°	70.1	78.1	77.4	71.9	69.3
75°	56.2	62.4	61.7	57.3	55.1
77.5°	43.1	47.4	46.7	43.8	42.0
80°	31.0	33.6	33.2	31.0	29.9
82.5°	20.4	21.9	21.2	19.7	19.0
85°	10.9	11.3	11.3	10.6	10.2
87.5°	4.0	4.0	4.0	4.0	3.6
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	15.82	17.42	16.18	17.73	18.05	15.60	17.20	15.97	17.52	17.83
	3H	17.32	18.76	17.70	19.09	19.45	17.07	18.51	17.45	18.84	19.20
	4H	17.83	19.18	18.22	19.53	19.90	17.57	18.92	17.97	19.27	19.65
	6H	18.15	19.40	18.56	19.76	20.15	17.89	19.14	18.30	19.50	19.90
	8H	18.23	19.42	18.65	19.81	20.21	17.96	19.16	18.39	19.55	19.95
	12H	18.27	19.41	18.70	19.79	20.22	18.00	19.14	18.43	19.52	19.95
4H	2H	16.44	17.79	16.84	18.14	18.52	16.27	17.63	16.67	17.97	18.35
	3H	18.17	19.30	18.58	19.70	20.10	17.94	19.07	18.35	19.46	19.87
	4H	18.80	19.82	19.23	20.23	20.67	18.54	19.55	18.97	19.97	20.40
	6H	19.23	20.11	19.68	20.55	21.01	18.95	19.83	19.40	20.28	20.73
	8H	19.34	20.17	19.80	20.61	21.08	19.05	19.88	19.51	20.32	20.79
	12H	19.40	20.15	19.88	20.62	21.09	19.11	19.85	19.59	20.33	20.80
8H	4H	19.04	19.87	19.50	20.31	20.78	18.81	19.64	19.27	20.08	20.55
	6H	19.56	20.25	20.06	20.74	21.22	19.31	20.00	19.80	20.48	20.96
	8H	19.73	20.34	20.24	20.85	21.34	19.46	20.07	19.97	20.58	21.07
	12H	19.84	20.38	20.35	20.87	21.44	19.56	20.10	20.06	20.59	21.15
12H	4H	19.05	19.79	19.53	20.27	20.74	18.83	19.57	19.31	20.05	20.52
	6H	19.59	20.20	20.10	20.71	21.20	19.34	19.96	19.85	20.46	20.95
	8H	19.80	20.34	20.30	20.83	21.39	19.53	20.08	20.04	20.57	21.13