

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: P1439911

Luminaire Tested: S124DR-H290D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439911
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-H290D940-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

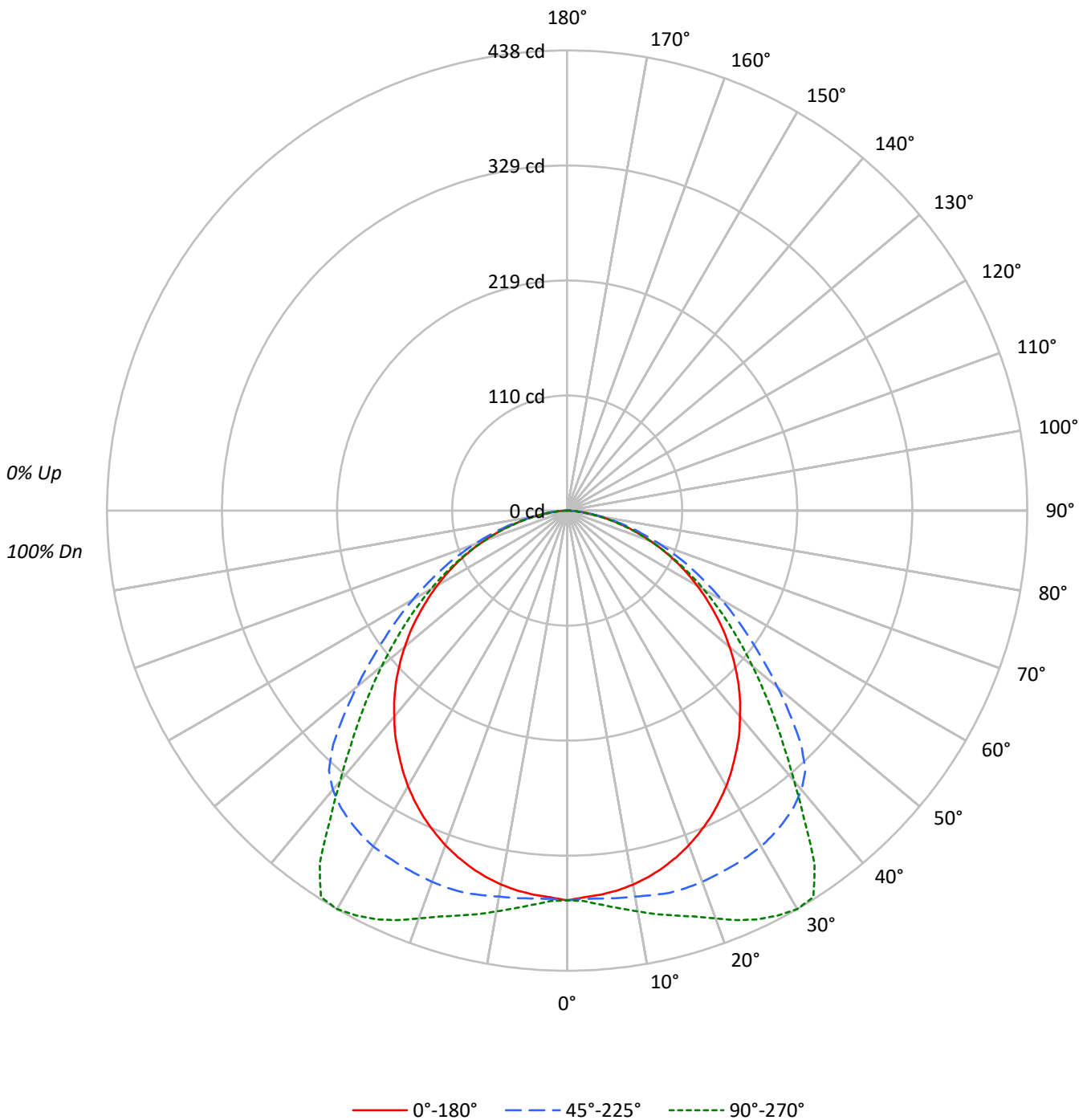
Lumens per Lamp: N/A
Luminaire Lumens: 1127.3 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	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°	3279	3279	3279
5°	3256	3289	3343
10°	3245	3350	3477
15°	3222	3448	3651
20°	3189	3538	3887
25°	3146	3640	4187
30°	3092	3768	4471
35°	3025	3893	4432
40°	2953	4004	3878
45°	2877	3937	3486
50°	2774	3595	3169
55°	2659	3271	2895
60°	2530	2999	2652
65°	2377	2734	2423
70°	2174	2445	2164
75°	1916	2101	1879
80°	1573	1685	1517
85°	1106	1146	1035

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3937 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.6	3.2
10°-20°	106.7	9.5
20°-30°	173.6	15.4
30°-40°	220.5	19.6
40°-50°	214.8	19.1
50°-60°	176.1	15.6
60°-70°	122.9	10.9
70°-80°	63.1	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°	315.9	28.0
0°-40°	536.3	47.6
0°-60°	927.3	82.3
0°-90°	1127.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1127.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	371	371	371	371	371	
5°	367	372	371	373	377	35
15°	352	363	377	392	399	99
25°	322	343	373	412	429	148
35°	280	308	361	413	411	175
45°	230	258	315	289	279	177
55°	172	199	212	194	188	154
65°	114	130	131	120	116	112
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°	370.9	370.9	370.9	370.9	370.9
2.5°	368.4	373.1	369.8	371.3	372.0
5°	366.9	372.4	370.6	373.1	376.7
7.5°	364.7	370.9	372.0	377.1	381.8
10°	361.5	368.7	373.1	381.8	387.3
12.5°	357.1	366.2	374.9	386.9	393.5
15°	352.0	362.9	376.7	391.7	398.9
17.5°	345.8	358.9	376.7	395.3	405.1
20°	338.9	354.2	376.0	400.0	413.1
22.5°	330.9	349.1	374.6	405.5	421.9
25°	322.5	343.3	373.1	411.7	429.2
27.5°	313.0	336.3	371.3	416.4	434.6
30°	302.9	328.0	369.1	418.6	437.9
32.5°	291.9	318.1	365.5	418.6	436.1
35°	280.3	307.6	360.7	413.1	410.6
37.5°	269.0	296.3	354.9	386.6	370.6
40°	255.9	284.3	346.9	349.1	336.0
42.5°	243.5	271.5	335.6	317.4	305.8
45°	230.1	258.4	314.9	288.7	278.8
47.5°	216.2	244.2	287.9	262.8	253.7
50°	201.7	230.1	261.4	238.4	230.4
52.5°	187.5	214.8	235.9	215.9	208.2
55°	172.5	199.1	212.2	194.4	187.8
57.5°	157.6	183.1	190.7	174.4	168.2
60°	143.1	166.0	169.6	155.4	150.0
62.5°	128.5	148.1	149.6	137.2	132.5
65°	113.6	129.9	130.7	120.1	115.8
67.5°	99.0	112.5	112.5	103.4	99.7
70°	84.1	95.4	94.6	87.4	83.7
72.5°	69.9	77.9	77.2	71.7	69.2
75°	56.1	62.2	61.5	57.1	55.0
77.5°	43.0	47.3	46.6	43.7	41.9
80°	30.9	33.5	33.1	30.9	29.8
82.5°	20.4	21.8	21.1	19.7	18.9
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	15.81	17.41	16.18	17.72	18.04	15.60	17.20	15.96	17.51	17.82
	3H	17.31	18.75	17.69	19.08	19.44	17.07	18.51	17.44	18.83	19.19
	4H	17.82	19.17	18.22	19.52	19.89	17.56	18.92	17.96	19.26	19.64
	6H	18.14	19.39	18.55	19.76	20.15	17.88	19.13	18.29	19.50	19.89
	8H	18.22	19.41	18.65	19.80	20.20	17.96	19.15	18.38	19.54	19.94
	12H	18.26	19.40	18.69	19.79	20.21	17.99	19.13	18.42	19.52	19.94
4H	2H	16.43	17.79	16.83	18.13	18.51	16.26	17.62	16.66	17.97	18.34
	3H	18.16	19.29	18.57	19.69	20.09	17.93	19.06	18.34	19.46	19.86
	4H	18.79	19.81	19.22	20.22	20.66	18.53	19.54	18.96	19.96	20.40
	6H	19.22	20.10	19.67	20.54	21.00	18.94	19.83	19.40	20.27	20.72
	8H	19.33	20.16	19.79	20.60	21.07	19.04	19.87	19.51	20.31	20.78
	12H	19.40	20.14	19.88	20.61	21.08	19.10	19.84	19.58	20.32	20.79
8H	4H	19.03	19.86	19.49	20.30	20.77	18.80	19.63	19.26	20.07	20.54
	6H	19.56	20.24	20.05	20.73	21.21	19.30	19.99	19.80	20.48	20.95
	8H	19.72	20.34	20.23	20.84	21.33	19.45	20.06	19.96	20.57	21.06
	12H	19.83	20.37	20.34	20.86	21.43	19.55	20.09	20.06	20.58	21.15
12H	4H	19.04	19.79	19.52	20.26	20.73	18.82	19.56	19.30	20.04	20.51
	6H	19.58	20.19	20.09	20.70	21.19	19.33	19.95	19.84	20.45	20.94
	8H	19.79	20.33	20.29	20.82	21.38	19.52	20.07	20.03	20.56	21.12