

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: P1439937

Luminaire Tested: S124DR-H865D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439937
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-H865D935-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

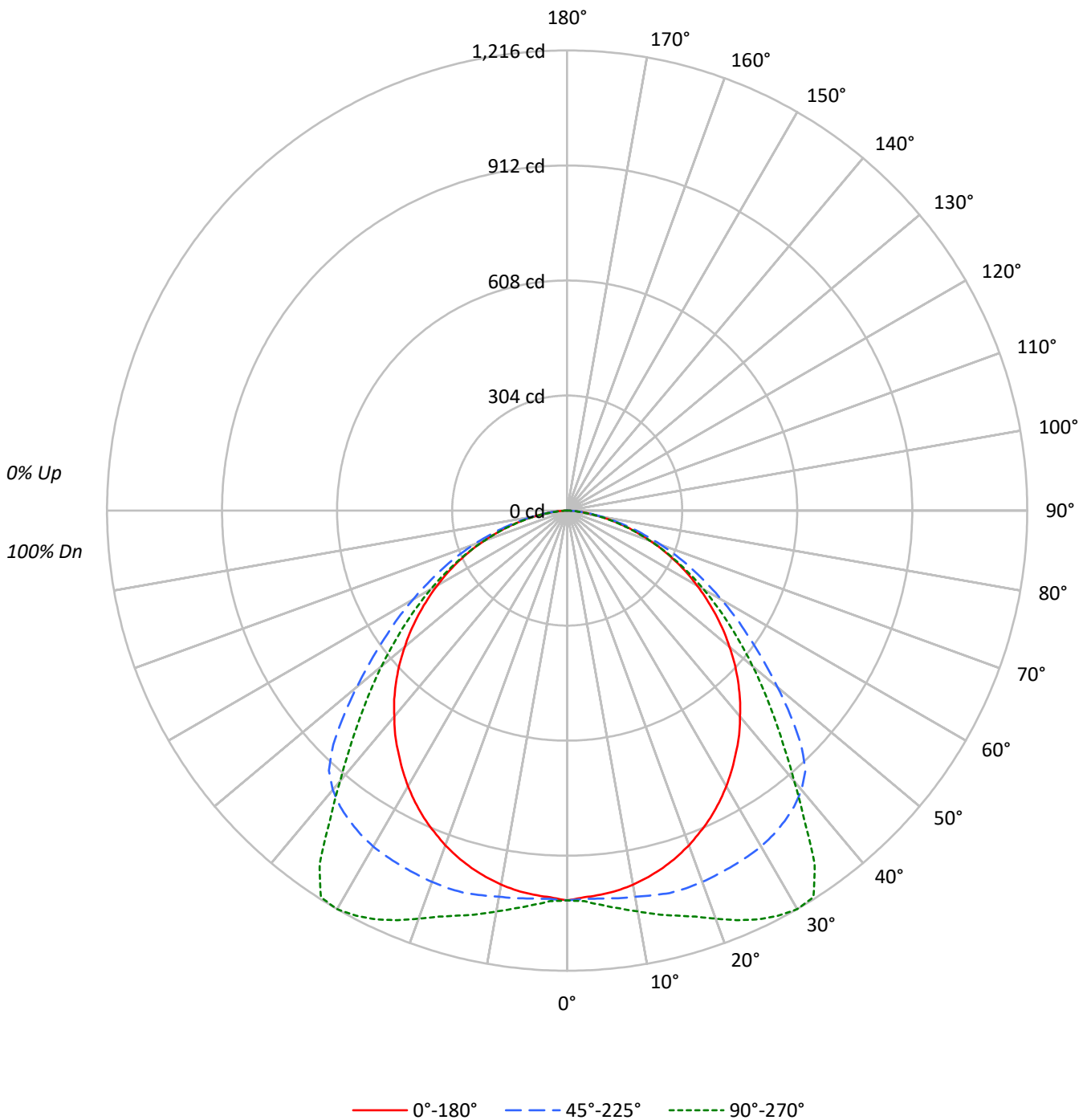
Lumens per Lamp: N/A
Luminaire Lumens: 3130.6 lumens
Efficiency: N/A
Efficacy: 101.3 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	67	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°	9108	9108	9108
5°	9044	9133	9286
10°	9012	9303	9656
15°	8947	9577	10142
20°	8856	9826	10796
25°	8738	10109	11627
30°	8587	10465	12415
35°	8402	10813	12308
40°	8203	11119	10769
45°	7989	10933	9683
50°	7703	9983	8802
55°	7387	9085	8040
60°	7025	8330	7365
65°	6598	7592	6726
70°	6036	6794	6010
75°	5319	5835	5213
80°	4374	4684	4221
85°	3074	3175	2871

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 10933 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.9	3.2
10°-20°	296.2	9.5
20°-30°	482.2	15.4
30°-40°	612.3	19.6
40°-50°	596.6	19.1
50°-60°	489.2	15.6
60°-70°	341.3	10.9
70°-80°	175.2	5.6
80°-90°	38.8	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°	877.2	28.0
0°-40°	1489.5	47.6
0°-60°	2575.3	82.3
0°-90°	3130.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3130.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1030	1030	1030	1030	1030	
5°	1019	1034	1029	1036	1046	97
15°	978	1008	1046	1088	1108	276
25°	896	953	1036	1143	1192	412
35°	778	854	1002	1147	1140	487
45°	639	718	874	802	774	492
55°	479	553	589	540	522	428
65°	315	361	363	334	322	312
75°	156	173	171	159	153	166
85°	30	31	31	29	28	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1030.1	1030.1	1030.1	1030.1	1030.1
2.5°	1023.0	1036.2	1027.1	1031.1	1033.1
5°	1019.0	1034.2	1029.1	1036.2	1046.3
7.5°	1012.9	1030.1	1033.1	1047.3	1060.4
10°	1003.8	1024.0	1036.2	1060.4	1075.6
12.5°	991.7	1017.0	1041.2	1074.6	1092.8
15°	977.5	1007.9	1046.3	1087.7	1108.0
17.5°	960.4	996.8	1046.3	1097.8	1125.1
20°	941.2	983.6	1044.3	1111.0	1147.4
22.5°	918.9	969.5	1040.2	1126.1	1171.6
25°	895.7	953.3	1036.2	1143.3	1191.9
27.5°	869.4	934.1	1031.1	1156.5	1207.0
30°	841.1	910.8	1025.1	1162.5	1216.1
32.5°	810.7	883.5	1014.9	1162.5	1211.1
35°	778.4	854.2	1001.8	1147.4	1140.3
37.5°	747.1	822.9	985.6	1073.6	1029.1
40°	710.7	789.5	963.4	969.5	933.1
42.5°	676.3	754.1	932.1	881.5	849.2
45°	638.9	717.7	874.4	801.6	774.4
47.5°	600.5	678.3	799.6	729.9	704.6
50°	560.0	638.9	725.8	662.1	639.9
52.5°	520.6	596.4	655.1	599.5	578.2
55°	479.2	553.0	589.4	539.8	521.6
57.5°	437.7	508.5	529.7	484.2	467.0
60°	397.3	461.0	471.1	431.7	416.5
62.5°	356.8	411.4	415.5	381.1	368.0
65°	315.4	360.9	362.9	333.6	321.5
67.5°	275.0	312.4	312.4	287.1	277.0
70°	233.5	264.9	262.8	242.6	232.5
72.5°	194.1	216.3	214.3	199.1	192.1
75°	155.7	172.9	170.8	158.7	152.6
77.5°	119.3	131.4	129.4	121.3	116.3
80°	85.9	93.0	92.0	85.9	82.9
82.5°	56.6	60.7	58.6	54.6	52.6
85°	30.3	31.3	31.3	29.3	28.3
87.5°	11.1	11.1	11.1	11.1	10.1
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	19.36	20.96	19.72	21.27	21.59	19.14	20.74	19.51	21.06	21.37
	3H	20.86	22.30	21.24	22.63	22.99	20.61	22.05	20.99	22.38	22.74
	4H	21.37	22.72	21.76	23.07	23.44	21.11	22.46	21.51	22.81	23.19
	6H	21.69	22.94	22.10	23.30	23.70	21.43	22.68	21.84	23.04	23.44
	8H	21.77	22.96	22.19	23.35	23.75	21.50	22.70	21.93	23.09	23.49
	12H	21.81	22.95	22.24	23.33	23.76	21.54	22.68	21.97	23.06	23.49
4H	2H	19.98	21.33	20.38	21.68	22.06	19.81	21.17	20.21	21.51	21.89
	3H	21.71	22.84	22.12	23.24	23.64	21.48	22.61	21.89	23.00	23.40
	4H	22.34	23.36	22.77	23.77	24.21	22.08	23.09	22.51	23.51	23.94
	6H	22.77	23.65	23.22	24.09	24.55	22.49	23.37	22.94	23.82	24.27
	8H	22.88	23.71	23.34	24.15	24.62	22.59	23.42	23.05	23.86	24.33
	12H	22.94	23.69	23.42	24.16	24.63	22.65	23.39	23.13	23.87	24.34
8H	4H	22.58	23.41	23.04	23.85	24.32	22.35	23.18	22.81	23.62	24.08
	6H	23.10	23.79	23.60	24.28	24.76	22.85	23.53	23.34	24.02	24.50
	8H	23.27	23.88	23.78	24.39	24.88	23.00	23.61	23.51	24.12	24.61
	12H	23.38	23.92	23.89	24.41	24.98	23.10	23.64	23.60	24.13	24.69
12H	4H	22.59	23.33	23.07	23.81	24.28	22.37	23.11	22.85	23.58	24.05
	6H	23.13	23.74	23.64	24.25	24.74	22.88	23.50	23.39	24.00	24.49
	8H	23.34	23.88	23.84	24.37	24.93	23.07	23.62	23.58	24.11	24.67