

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: P1439939

Luminaire Tested: S124DR-H865D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439939  
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-H865D950-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

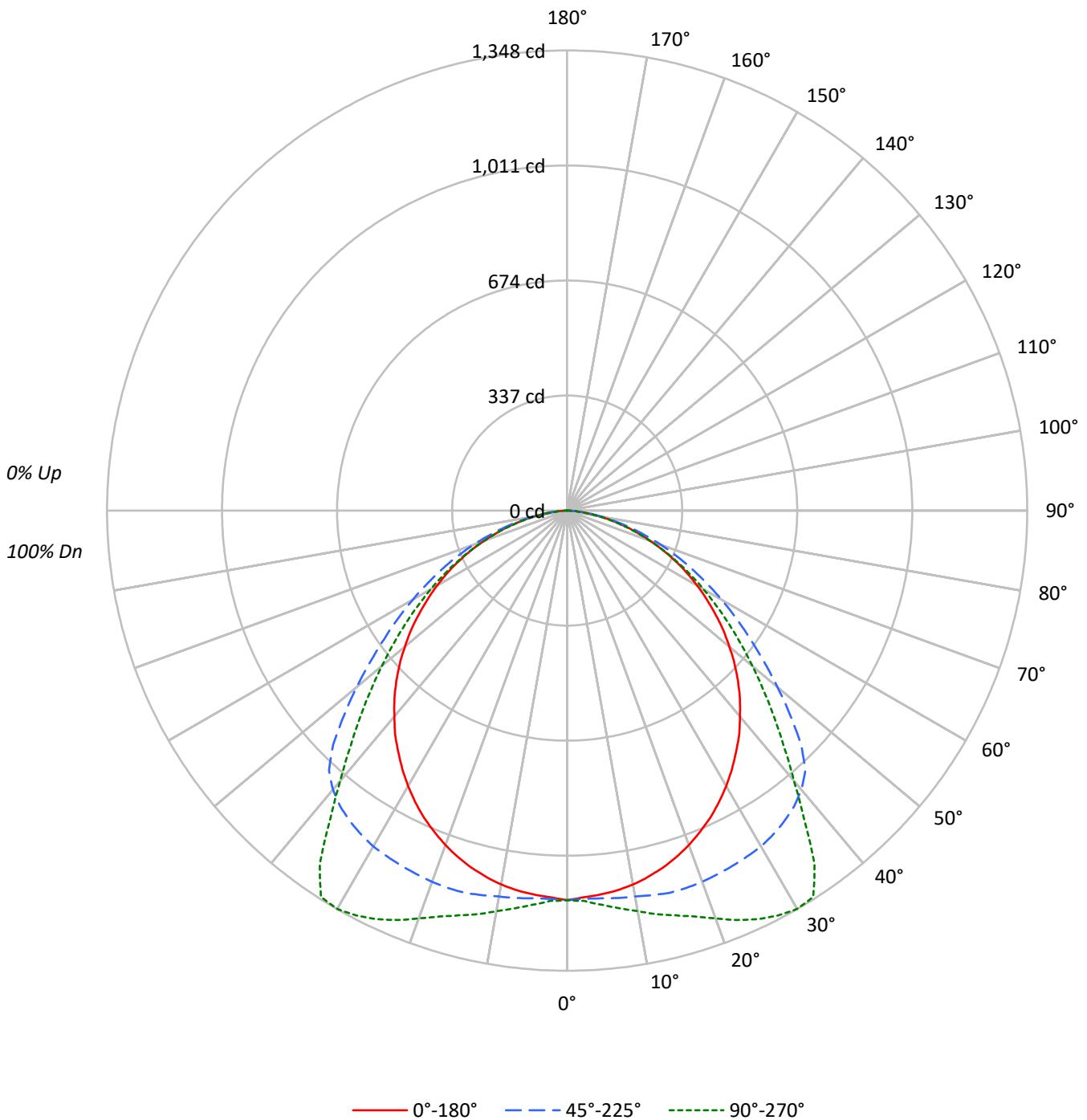
Lumens per Lamp: N/A  
Luminaire Lumens: 3468.8 lumens  
Efficiency: N/A  
Efficacy: 112.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 30.9  
Input Voltage (V): 120  
Input Current (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°	10092	10092	10092
5°	10021	10120	10289
10°	9986	10307	10700
15°	9914	10611	11237
20°	9811	10887	11961
25°	9681	11200	12883
30°	9514	11596	13757
35°	9309	11981	13637
40°	9088	12321	11933
45°	8851	12115	10728
50°	8535	11062	9752
55°	8184	10066	8910
60°	7784	9230	8161
65°	7312	8412	7452
70°	6688	7528	6659
75°	5893	6467	5777
80°	4847	5188	4674
85°	3408	3520	3185

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 12115 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.5	3.2
10°-20°	328.2	9.5
20°-30°	534.2	15.4
30°-40°	678.4	19.6
40°-50°	661.1	19.1
50°-60°	542.0	15.6
60°-70°	378.2	10.9
70°-80°	194.1	5.6
80°-90°	43.0	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°	972.0	28.0
0°-40°	1650.4	47.6
0°-60°	2853.5	82.3
0°-90°	3468.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3468.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1141	1141	1141	1141	1141	
5°	1129	1146	1140	1148	1159	107
15°	1083	1117	1159	1205	1228	305
25°	992	1056	1148	1267	1321	457
35°	862	946	1110	1271	1264	540
45°	708	795	969	888	858	545
55°	531	613	653	598	578	475
65°	350	400	402	370	356	346
75°	172	192	189	176	169	184
85°	34	35	35	32	31	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1141.4	1141.4	1141.4	1141.4	1141.4
2.5°	1133.5	1148.1	1138.0	1142.5	1144.7
5°	1129.1	1145.9	1140.3	1148.1	1159.3
7.5°	1122.3	1141.4	1144.7	1160.4	1175.0
10°	1112.3	1134.7	1148.1	1175.0	1191.8
12.5°	1098.8	1126.8	1153.7	1190.7	1210.8
15°	1083.1	1116.7	1159.3	1205.2	1227.6
17.5°	1064.1	1104.4	1159.3	1216.4	1246.7
20°	1042.8	1089.9	1157.1	1231.0	1271.3
22.5°	1018.2	1074.2	1152.6	1247.8	1298.2
25°	992.4	1056.3	1148.1	1266.8	1320.6
27.5°	963.3	1035.0	1142.5	1281.4	1337.4
30°	931.9	1009.2	1135.8	1288.1	1347.5
32.5°	898.3	979.0	1124.6	1288.1	1341.9
35°	862.5	946.5	1110.0	1271.3	1263.5
37.5°	827.8	911.8	1092.1	1189.5	1140.3
40°	787.4	874.8	1067.5	1074.2	1033.9
42.5°	749.3	835.6	1032.7	976.7	940.9
45°	707.9	795.3	968.9	888.2	858.0
47.5°	665.3	751.6	886.0	808.7	780.7
50°	620.5	707.9	804.2	733.7	709.0
52.5°	576.9	660.9	725.8	664.2	640.7
55°	530.9	612.7	653.0	598.1	578.0
57.5°	485.0	563.4	586.9	536.5	517.5
60°	440.2	510.8	522.0	478.3	461.5
62.5°	395.4	455.9	460.4	422.3	407.7
65°	349.5	399.9	402.1	369.6	356.2
67.5°	304.7	346.1	346.1	318.1	306.9
70°	258.7	293.5	291.2	268.8	257.6
72.5°	215.1	239.7	237.5	220.7	212.8
75°	172.5	191.5	189.3	175.9	169.1
77.5°	132.2	145.6	143.4	134.4	128.8
80°	95.2	103.0	101.9	95.2	91.8
82.5°	62.7	67.2	65.0	60.5	58.2
85°	33.6	34.7	34.7	32.5	31.4
87.5°	12.3	12.3	12.3	12.3	11.2
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	19.72	21.31	20.08	21.63	21.94	19.50	21.10	19.86	21.41	21.73
	3H	21.22	22.66	21.60	22.99	23.35	20.97	22.41	21.35	22.74	23.10
	4H	21.72	23.07	22.12	23.42	23.80	21.47	22.82	21.87	23.17	23.54
	6H	22.04	23.29	22.45	23.66	24.05	21.78	23.04	22.19	23.40	23.79
	8H	22.13	23.32	22.55	23.71	24.11	21.86	23.05	22.28	23.44	23.84
	12H	22.16	23.31	22.59	23.69	24.12	21.89	23.04	22.32	23.42	23.85
4H	2H	20.34	21.69	20.74	22.04	22.42	20.17	21.52	20.57	21.87	22.25
	3H	22.07	23.19	22.48	23.59	23.99	21.84	22.96	22.25	23.36	23.76
	4H	22.70	23.71	23.13	24.13	24.56	22.43	23.45	22.86	23.86	24.30
	6H	23.12	24.01	23.58	24.45	24.91	22.85	23.73	23.30	24.17	24.63
	8H	23.24	24.06	23.70	24.51	24.97	22.95	23.78	23.41	24.22	24.69
	12H	23.30	24.04	23.78	24.52	24.99	23.01	23.75	23.49	24.23	24.70
8H	4H	22.94	23.77	23.40	24.21	24.67	22.70	23.53	23.17	23.98	24.44
	6H	23.46	24.15	23.96	24.64	25.11	23.21	23.89	23.70	24.38	24.86
	8H	23.63	24.24	24.14	24.75	25.23	23.35	23.97	23.86	24.48	24.96
	12H	23.73	24.28	24.24	24.77	25.33	23.45	24.00	23.96	24.49	25.05
12H	4H	22.95	23.69	23.43	24.17	24.64	22.72	23.46	23.20	23.94	24.41
	6H	23.48	24.10	23.99	24.61	25.09	23.24	23.85	23.75	24.36	24.85
	8H	23.69	24.24	24.20	24.73	25.29	23.43	23.97	23.94	24.46	25.03