

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: P1439976

Luminaire Tested: S124DR-S865D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439976  
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-S865D830-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

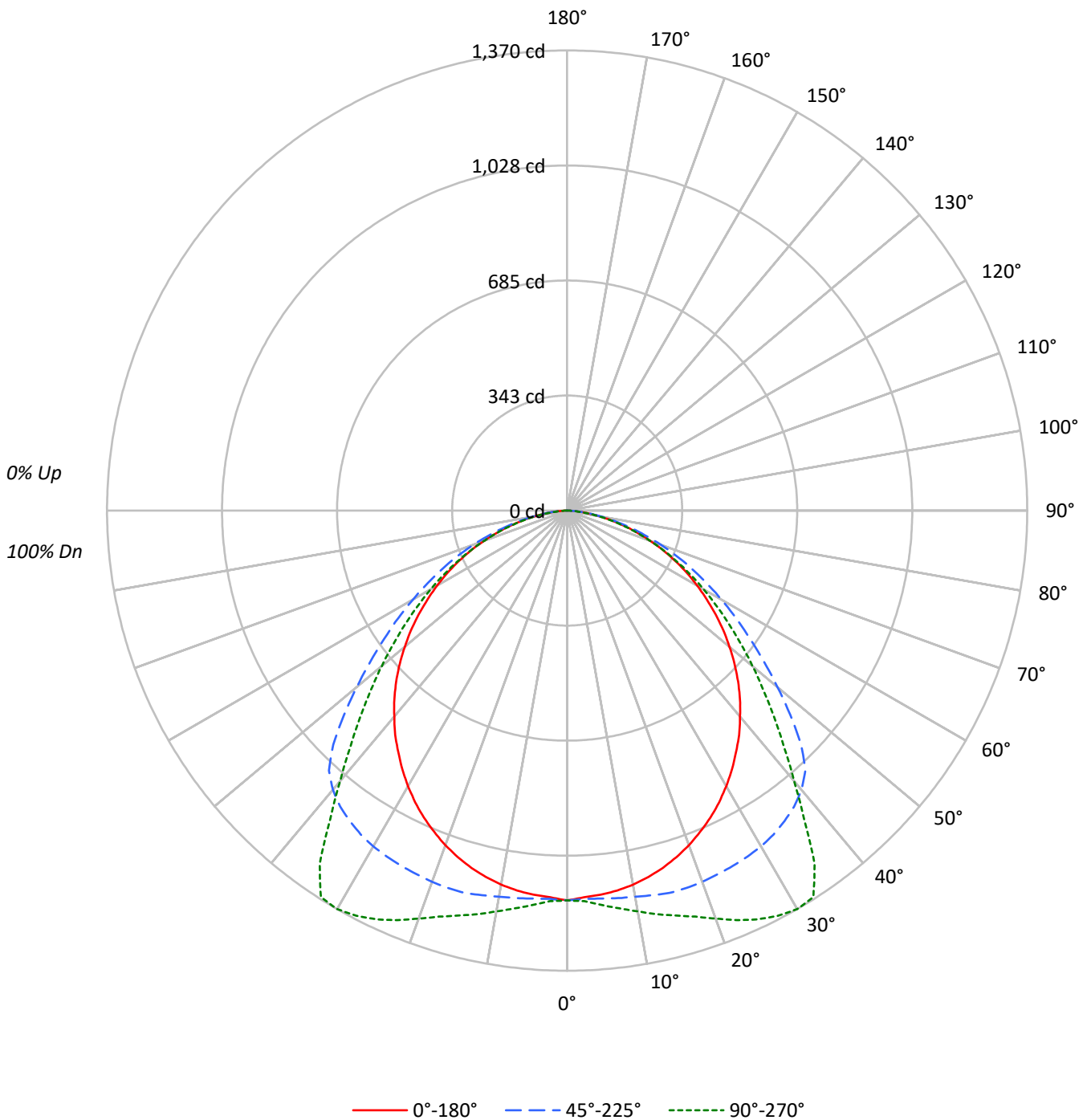
Lumens per Lamp: N/A  
Luminaire Lumens: 3526.5 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.7  
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°	10260	10260	10260
5°	10188	10288	10460
10°	10152	10479	10877
15°	10080	10788	11424
20°	9975	11068	12161
25°	9842	11386	13098
30°	9672	11788	13986
35°	9464	12180	13864
40°	9239	12525	12131
45°	8999	12316	10907
50°	8678	11246	9914
55°	8321	10234	9058
60°	7913	9384	8297
65°	7433	8552	7575
70°	6799	7654	6770
75°	5992	6572	5876
80°	4929	5275	4756
85°	3469	3581	3236

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 12316 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.4	3.2
10°-20°	333.7	9.5
20°-30°	543.1	15.4
30°-40°	689.7	19.6
40°-50°	672.1	19.1
50°-60°	551.0	15.6
60°-70°	384.5	10.9
70°-80°	197.3	5.6
80°-90°	43.7	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°	988.1	28.0
0°-40°	1677.9	47.6
0°-60°	2901.0	82.3
0°-90°	3526.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3526.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1160	1160	1160	1160	1160	
5°	1148	1165	1159	1167	1179	109
15°	1101	1135	1179	1225	1248	310
25°	1009	1074	1167	1288	1343	464
35°	877	962	1128	1292	1284	549
45°	720	808	985	903	872	555
55°	540	623	664	608	588	483
65°	355	406	409	376	362	352
75°	175	195	192	179	172	187
85°	34	35	35	33	32	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1160.4	1160.4	1160.4	1160.4	1160.4
2.5°	1152.4	1167.2	1157.0	1161.5	1163.8
5°	1147.9	1164.9	1159.2	1167.2	1178.6
7.5°	1141.0	1160.4	1163.8	1179.7	1194.5
10°	1130.8	1153.5	1167.2	1194.5	1211.6
12.5°	1117.1	1145.6	1172.9	1210.5	1231.0
15°	1101.2	1135.3	1178.6	1225.3	1248.1
17.5°	1081.8	1122.8	1178.6	1236.7	1267.4
20°	1060.2	1108.0	1176.3	1251.5	1292.5
22.5°	1035.1	1092.1	1171.8	1268.6	1319.8
25°	1008.9	1073.8	1167.2	1287.9	1342.6
27.5°	979.3	1052.2	1161.5	1302.7	1359.7
30°	947.4	1026.0	1154.7	1309.6	1369.9
32.5°	913.3	995.3	1143.3	1309.6	1364.2
35°	876.8	962.2	1128.5	1292.5	1284.5
37.5°	841.5	926.9	1110.3	1209.3	1159.2
40°	800.5	889.4	1085.2	1092.1	1051.1
42.5°	761.8	849.5	1049.9	993.0	956.5
45°	719.7	808.5	985.0	903.0	872.3
47.5°	676.4	764.1	900.7	822.2	793.7
50°	630.9	719.7	817.6	745.9	720.8
52.5°	586.5	671.9	737.9	675.3	651.4
55°	539.8	622.9	663.9	608.1	587.6
57.5°	493.1	572.8	596.7	545.5	526.1
60°	447.5	519.3	530.7	486.2	469.2
62.5°	402.0	463.5	468.0	429.3	414.5
65°	355.3	406.5	408.8	375.8	362.1
67.5°	309.7	351.9	351.9	323.4	312.0
70°	263.0	298.4	296.1	273.3	261.9
72.5°	218.6	243.7	241.4	224.3	216.4
75°	175.4	194.7	192.4	178.8	172.0
77.5°	134.4	148.0	145.8	136.6	131.0
80°	96.8	104.8	103.6	96.8	93.4
82.5°	63.8	68.3	66.0	61.5	59.2
85°	34.2	35.3	35.3	33.0	31.9
87.5°	12.5	12.5	12.5	12.5	11.4
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	19.77	21.37	20.14	21.69	22.00	19.56	21.16	19.92	21.47	21.79
	3H	21.28	22.72	21.65	23.04	23.40	21.03	22.47	21.41	22.80	23.16
	4H	21.78	23.13	22.18	23.48	23.86	21.52	22.88	21.92	23.23	23.60
	6H	22.10	23.35	22.51	23.72	24.11	21.84	23.09	22.25	23.46	23.85
	8H	22.18	23.38	22.61	23.77	24.17	21.92	23.11	22.34	23.50	23.90
	12H	22.22	23.37	22.65	23.75	24.18	21.95	23.10	22.38	23.48	23.91
4H	2H	20.40	21.75	20.79	22.10	22.47	20.23	21.58	20.62	21.93	22.30
	3H	22.12	23.25	22.53	23.65	24.05	21.89	23.02	22.30	23.42	23.82
	4H	22.75	23.77	23.18	24.18	24.62	22.49	23.51	22.92	23.92	24.36
	6H	23.18	24.07	23.64	24.51	24.96	22.90	23.79	23.36	24.23	24.69
	8H	23.29	24.12	23.75	24.56	25.03	23.01	23.83	23.47	24.28	24.74
	12H	23.36	24.10	23.84	24.58	25.05	23.06	23.81	23.55	24.28	24.75
8H	4H	22.99	23.82	23.46	24.27	24.73	22.76	23.59	23.22	24.03	24.50
	6H	23.52	24.20	24.01	24.69	25.17	23.26	23.95	23.76	24.44	24.91
	8H	23.68	24.30	24.19	24.81	25.29	23.41	24.03	23.92	24.53	25.02
	12H	23.79	24.34	24.30	24.83	25.39	23.51	24.05	24.02	24.55	25.11
12H	4H	23.01	23.75	23.49	24.22	24.69	22.78	23.52	23.26	24.00	24.47
	6H	23.54	24.16	24.05	24.66	25.15	23.29	23.91	23.80	24.42	24.90
	8H	23.75	24.29	24.26	24.78	25.35	23.49	24.03	23.99	24.52	25.08