

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: P1439983

Luminaire Tested: S124DR-S865D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439983  
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-S865D940-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**

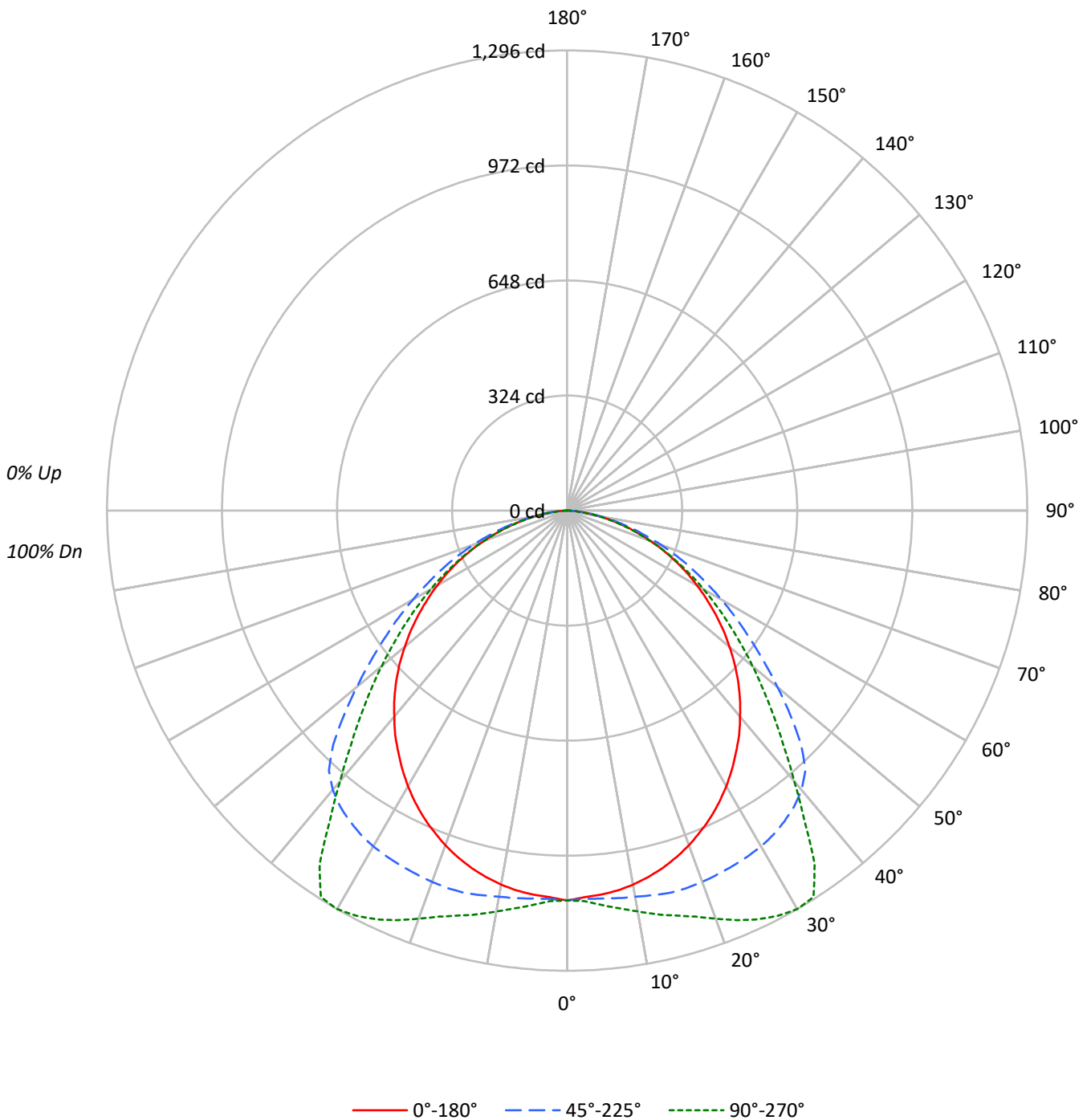
Lumens per Lamp: N/A  
Luminaire Lumens: 3336.3 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	9706	9706	9706
5°	9638	9733	9896
10°	9604	9914	10291
15°	9536	10206	10808
20°	9437	10471	11505
25°	9312	10773	12391
30°	9150	11152	13231
35°	8953	11523	13116
40°	8742	11850	11477
45°	8514	11652	10318
50°	8209	10639	9379
55°	7872	9682	8569
60°	7487	8877	7849
65°	7031	8092	7167
70°	6434	7241	6406
75°	5667	6221	5558
80°	4664	4990	4496
85°	3277	3388	3064

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 11652 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.3	3.2
10°-20°	315.7	9.5
20°-30°	513.8	15.4
30°-40°	652.5	19.6
40°-50°	635.8	19.1
50°-60°	521.3	15.6
60°-70°	363.7	10.9
70°-80°	186.7	5.6
80°-90°	41.4	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°	934.9	28.0
0°-40°	1587.4	47.6
0°-60°	2744.5	82.3
0°-90°	3336.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3336.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1098	1098	1098	1098	1098	
5°	1086	1102	1097	1104	1115	103
15°	1042	1074	1115	1159	1181	294
25°	954	1016	1104	1218	1270	439
35°	830	910	1068	1223	1215	519
45°	681	765	932	854	825	525
55°	511	589	628	575	556	457
65°	336	385	387	356	343	333
75°	166	184	182	169	163	177
85°	32	33	33	31	30	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1097.8	1097.8	1097.8	1097.8	1097.8
2.5°	1090.3	1104.3	1094.6	1098.9	1101.0
5°	1085.9	1102.1	1096.7	1104.3	1115.0
7.5°	1079.5	1097.8	1101.0	1116.1	1130.1
10°	1069.8	1091.3	1104.3	1130.1	1146.3
12.5°	1056.9	1083.8	1109.6	1145.2	1164.6
15°	1041.8	1074.1	1115.0	1159.2	1180.8
17.5°	1023.5	1062.2	1115.0	1170.0	1199.1
20°	1003.0	1048.2	1112.9	1184.0	1222.8
22.5°	979.3	1033.2	1108.6	1200.1	1248.6
25°	954.5	1015.9	1104.3	1218.5	1270.2
27.5°	926.5	995.5	1098.9	1232.5	1286.3
30°	896.3	970.7	1092.4	1238.9	1296.0
32.5°	864.0	941.6	1081.6	1238.9	1290.6
35°	829.5	910.3	1067.6	1222.8	1215.2
37.5°	796.1	876.9	1050.4	1144.1	1096.7
40°	757.4	841.4	1026.7	1033.2	994.4
42.5°	720.7	803.7	993.3	939.4	905.0
45°	680.9	764.9	931.9	854.3	825.2
47.5°	639.9	722.9	852.2	777.8	750.9
50°	596.8	680.9	773.5	705.7	681.9
52.5°	554.8	635.6	698.1	638.9	616.2
55°	510.7	589.3	628.1	575.3	555.9
57.5°	466.5	541.9	564.5	516.0	497.7
60°	423.4	491.3	502.0	460.0	443.9
62.5°	380.3	438.5	442.8	406.2	392.1
65°	336.1	384.6	386.8	355.5	342.6
67.5°	293.0	332.9	332.9	306.0	295.2
70°	248.9	282.3	280.1	258.6	247.8
72.5°	206.8	230.5	228.4	212.2	204.7
75°	165.9	184.2	182.1	169.1	162.7
77.5°	127.1	140.1	137.9	129.3	123.9
80°	91.6	99.1	98.0	91.6	88.3
82.5°	60.3	64.6	62.5	58.2	56.0
85°	32.3	33.4	33.4	31.2	30.2
87.5°	11.9	11.9	11.9	11.9	10.8
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	19.58	21.18	19.95	21.49	21.81	19.36	20.96	19.73	21.28	21.59
	3H	21.08	22.52	21.46	22.85	23.21	20.84	22.28	21.21	22.60	22.96
	4H	21.59	22.94	21.99	23.29	23.66	21.33	22.69	21.73	23.03	23.41
	6H	21.91	23.16	22.32	23.52	23.92	21.65	22.90	22.06	23.27	23.66
	8H	21.99	23.18	22.41	23.57	23.97	21.72	22.92	22.15	23.31	23.71
	12H	22.03	23.17	22.46	23.55	23.98	21.76	22.90	22.19	23.28	23.71
4H	2H	20.20	21.56	20.60	21.90	22.28	20.03	21.39	20.43	21.73	22.11
	3H	21.93	23.06	22.34	23.46	23.86	21.70	22.83	22.11	23.23	23.63
	4H	22.56	23.58	22.99	23.99	24.43	22.30	23.31	22.73	23.73	24.16
	6H	22.99	23.87	23.44	24.31	24.77	22.71	23.60	23.17	24.04	24.49
	8H	23.10	23.93	23.56	24.37	24.84	22.81	23.64	23.27	24.08	24.55
	12H	23.17	23.91	23.65	24.38	24.85	22.87	23.61	23.35	24.09	24.56
8H	4H	22.80	23.63	23.26	24.07	24.54	22.57	23.40	23.03	23.84	24.31
	6H	23.33	24.01	23.82	24.50	24.98	23.07	23.76	23.56	24.25	24.72
	8H	23.49	24.11	24.00	24.61	25.10	23.22	23.83	23.73	24.34	24.83
	12H	23.60	24.14	24.11	24.63	25.20	23.32	23.86	23.83	24.35	24.91
12H	4H	22.81	23.56	23.29	24.03	24.50	22.59	23.33	23.07	23.81	24.28
	6H	23.35	23.96	23.86	24.47	24.96	23.10	23.72	23.61	24.22	24.71
	8H	23.56	24.10	24.06	24.59	25.15	23.29	23.84	23.80	24.33	24.89