

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: P1439848

Luminaire Tested: S123DR-S865D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439848
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DR-S865D940-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

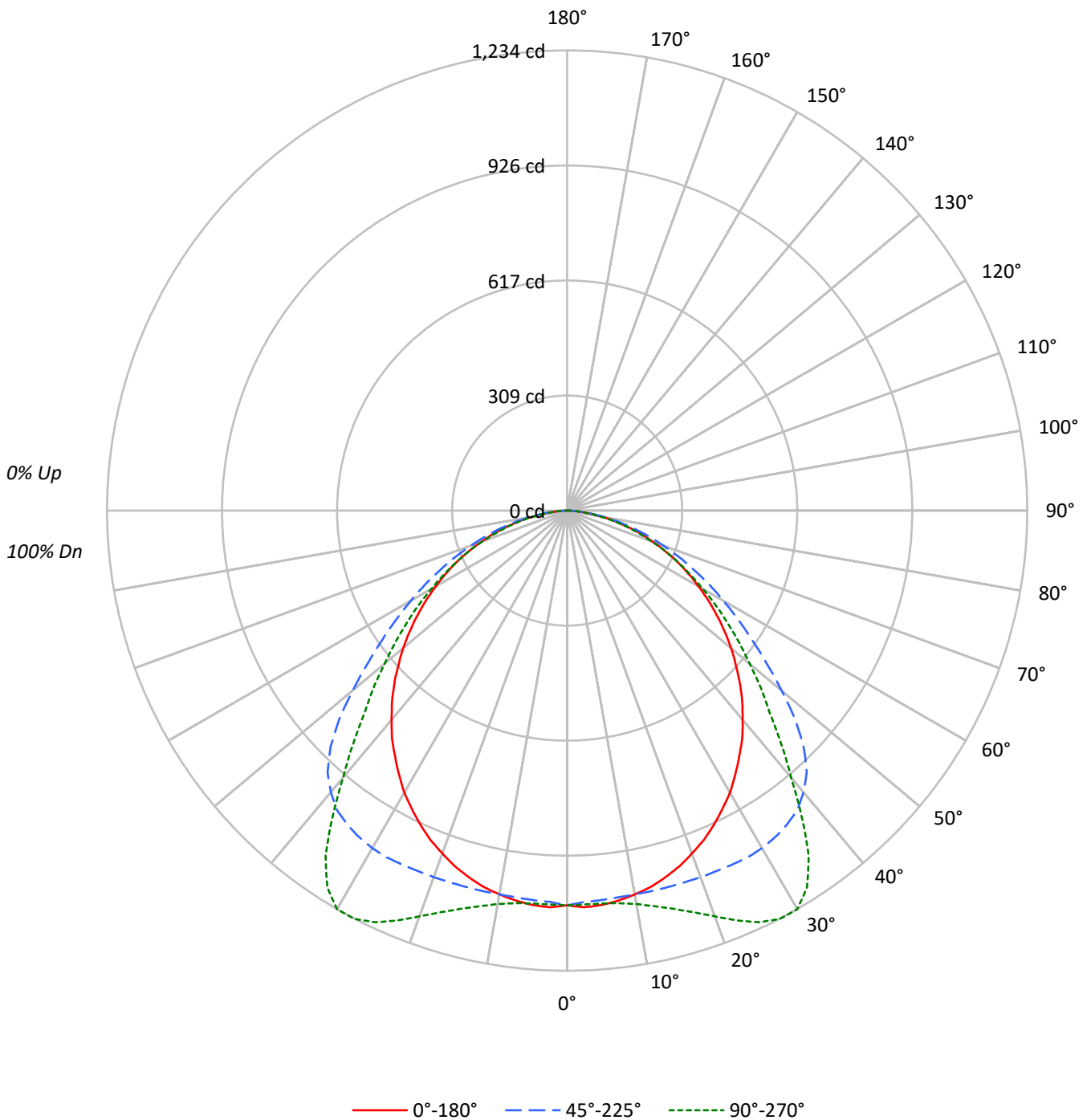
Lumens per Lamp: N/A
Luminaire Lumens: 3200.8 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
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	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													100															
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85													85															
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71													71															
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60													60															
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52													52															
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45													45															
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39													39															
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34													34															
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31													31															
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28													28															
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25													25															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12759	12759	12759
5°	12848	12688	12795
10°	12795	12795	13117
15°	12704	13045	13796
20°	12553	13423	14856
25°	12374	13932	16203
30°	12158	14549	17186
35°	11839	15124	16623
40°	11522	15518	14709
45°	11176	15301	13100
50°	10777	14080	11987
55°	10306	12744	11019
60°	9816	11663	10132
65°	9334	10678	9366
70°	8640	9683	8488
75°	7798	8618	7598
80°	6533	7221	6228
85°	4994	5298	4689

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 15301 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.8	3.1
10°-20°	299.4	9.4
20°-30°	490.7	15.3
30°-40°	620.8	19.4
40°-50°	606.5	18.9
50°-60°	498.2	15.6
60°-70°	351.4	11.0
70°-80°	187.3	5.9
80°-90°	45.6	1.4
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°	890.9	27.8
0°-40°	1511.7	47.2
0°-60°	2616.4	81.7
0°-90°	3200.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3200.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1058	1058	1058	1058	1058	
5°	1062	1057	1048	1059	1057	101
15°	1018	1023	1045	1092	1105	287
25°	930	958	1047	1174	1218	428
35°	804	860	1028	1147	1129	504
45°	656	730	897	810	768	505
55°	490	564	606	545	524	439
65°	327	374	374	341	328	323
75°	167	188	185	167	163	178
85°	36	39	38	35	34	44
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1058.3	1058.3	1058.3	1058.3	1058.3
2.5°	1064.8	1061.6	1050.6	1060.5	1057.2
5°	1061.6	1057.2	1048.4	1059.4	1057.2
7.5°	1055.0	1052.8	1046.2	1062.6	1061.6
10°	1045.1	1044.0	1045.1	1069.2	1071.4
12.5°	1034.2	1035.3	1045.1	1079.1	1086.7
15°	1017.8	1023.2	1045.1	1092.2	1105.3
17.5°	1000.3	1009.0	1045.1	1109.7	1129.4
20°	978.4	993.7	1046.2	1128.3	1157.9
22.5°	956.5	975.1	1046.2	1153.5	1189.6
25°	930.2	957.6	1047.3	1174.3	1218.0
27.5°	901.8	934.6	1048.4	1190.7	1234.5
30°	873.3	912.7	1045.1	1197.3	1234.5
32.5°	839.4	887.5	1038.6	1186.3	1197.3
35°	804.4	860.2	1027.6	1146.9	1129.4
37.5°	771.5	830.6	1013.4	1074.7	1033.1
40°	732.1	798.9	986.0	982.8	934.6
42.5°	694.9	765.0	951.0	889.7	850.3
45°	655.5	730.0	897.4	809.8	768.3
47.5°	613.9	691.7	829.5	734.3	704.8
50°	574.6	652.3	750.7	665.4	639.1
52.5°	531.9	610.7	675.2	604.1	581.1
55°	490.3	563.6	606.3	545.0	524.2
57.5°	448.7	517.6	542.8	489.2	472.8
60°	407.1	469.5	483.7	437.8	420.2
62.5°	366.6	424.6	429.0	388.5	373.2
65°	327.2	374.3	374.3	341.4	328.3
67.5°	285.6	326.1	323.9	293.3	285.6
70°	245.1	279.1	274.7	249.5	240.8
72.5°	206.8	232.0	228.7	209.0	199.2
75°	167.4	188.2	185.0	167.4	163.1
77.5°	130.2	144.5	141.2	129.1	125.9
80°	94.1	105.1	104.0	95.2	89.7
82.5°	63.5	68.9	67.9	62.4	59.1
85°	36.1	39.4	38.3	35.0	33.9
87.5°	14.2	16.4	17.5	16.4	15.3
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	20.48	22.09	20.85	22.40	22.72	20.21	21.82	20.58	22.13	22.45
	3H	22.05	23.50	22.43	23.83	24.19	21.73	23.17	22.10	23.50	23.86
	4H	22.61	23.97	23.00	24.31	24.69	22.26	23.62	22.66	23.97	24.35
	6H	22.97	24.23	23.38	24.59	24.98	22.62	23.88	23.03	24.24	24.63
	8H	23.07	24.27	23.49	24.66	25.06	22.71	23.92	23.14	24.30	24.70
	12H	23.12	24.27	23.55	24.66	25.08	22.77	23.92	23.20	24.30	24.73
4H	2H	21.12	22.48	21.52	22.83	23.21	20.91	22.27	21.31	22.62	22.99
	3H	22.93	24.07	23.34	24.46	24.86	22.63	23.76	23.04	24.16	24.56
	4H	23.62	24.64	24.05	25.06	25.49	23.26	24.29	23.70	24.70	25.14
	6H	24.10	24.99	24.55	25.43	25.89	23.72	24.62	24.18	25.06	25.51
	8H	24.23	25.07	24.69	25.51	25.98	23.85	24.68	24.31	25.13	25.59
	12H	24.32	25.07	24.80	25.54	26.01	23.93	24.68	24.41	25.15	25.62
8H	4H	23.88	24.72	24.34	25.16	25.63	23.57	24.41	24.03	24.85	25.31
	6H	24.47	25.17	24.97	25.66	26.13	24.13	24.82	24.63	25.31	25.79
	8H	24.67	25.29	25.18	25.80	26.28	24.31	24.93	24.82	25.44	25.93
	12H	24.81	25.36	25.32	25.85	26.41	24.44	24.99	24.95	25.48	26.04
12H	4H	23.90	24.65	24.38	25.12	25.59	23.60	24.35	24.08	24.82	25.29
	6H	24.51	25.13	25.02	25.64	26.12	24.18	24.80	24.69	25.31	25.79
	8H	24.75	25.30	25.26	25.79	26.35	24.40	24.95	24.91	25.45	26.01