

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: P1439801

Luminaire Tested: S123DR-H865D930-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439801
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-H865D930-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

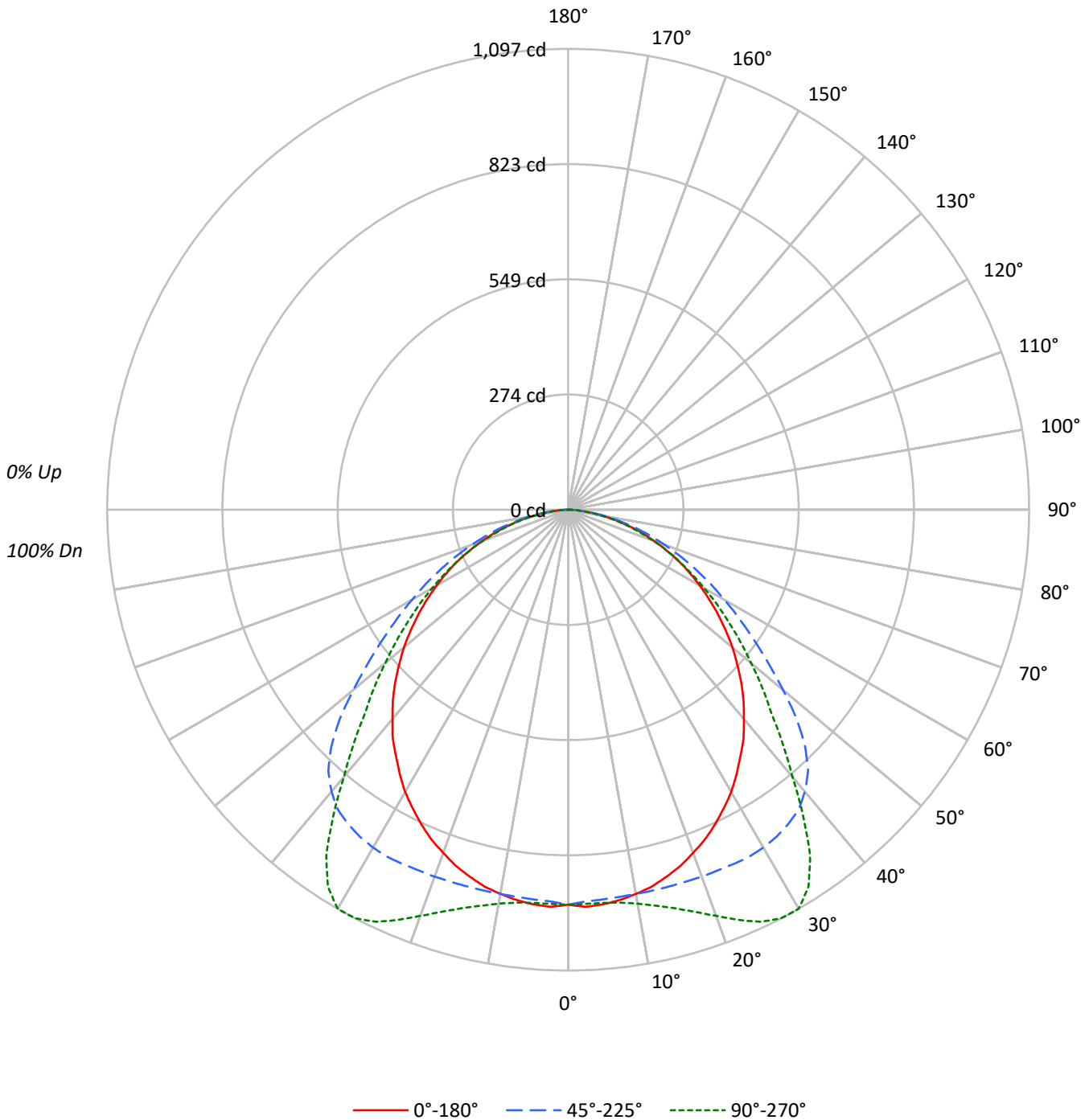
Lumens per Lamp: N/A
Luminaire Lumens: 2844.1 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P1439801

CATALOG NUMBER: S123DR-H865D930-X4F0-XX-UDD-FLB-W

Luminous Intensity Polar Plot





TEST NUMBER: P1439801

CATALOG NUMBER: S123DR-H865D930-X4F0-XX-UDD-FLB-W

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	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	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°	11337	11337	11337
5°	11415	11275	11368
10°	11368	11368	11655
15°	11287	11591	12258
20°	11153	11927	13200
25°	10995	12380	14398
30°	10803	12928	15271
35°	10519	13439	14770
40°	10238	13789	13069
45°	9932	13596	11639
50°	9575	12512	10652
55°	9156	11323	9791
60°	8722	10364	9004
65°	8293	9488	8322
70°	7678	8605	7540
75°	6931	7653	6750
80°	5804	6415	5534
85°	4440	4703	4164

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 13596 cd/sqm



TEST NUMBER: P1439801

CATALOG NUMBER: S123DR-H865D930-X4F0-XX-UDD-FLB-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.5	3.1
10°-20°	266.1	9.4
20°-30°	436.0	15.3
30°-40°	551.6	19.4
40°-50°	538.9	18.9
50°-60°	442.7	15.6
60°-70°	312.3	11.0
70°-80°	166.4	5.9
80°-90°	40.6	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°	791.6	27.8
0°-40°	1343.2	47.2
0°-60°	2324.8	81.7
0°-90°	2844.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2844.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	940	940	940	940	940	
5°	943	939	932	941	939	90
15°	904	909	929	970	982	255
25°	826	851	931	1043	1082	381
35°	715	764	913	1019	1004	448
45°	582	649	797	720	683	449
55°	436	501	539	484	466	390
65°	291	333	333	303	292	287
75°	149	167	164	149	145	158
85°	32	35	34	31	30	39
90°	0	0	0	0	0	



TEST NUMBER: P1439801

CATALOG NUMBER: S123DR-H865D930-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	940.3	940.3	940.3	940.3	940.3
2.5°	946.1	943.2	933.5	942.3	939.3
5°	943.2	939.3	931.6	941.3	939.3
7.5°	937.4	935.5	929.6	944.2	943.2
10°	928.6	927.7	928.6	950.0	952.0
12.5°	918.9	919.9	928.6	958.8	965.6
15°	904.3	909.2	928.6	970.5	982.1
17.5°	888.8	896.6	928.6	986.0	1003.5
20°	869.3	882.9	929.6	1002.5	1028.8
22.5°	849.9	866.4	929.6	1024.9	1057.0
25°	826.5	850.9	930.6	1043.4	1082.3
27.5°	801.3	830.4	931.6	1058.0	1096.9
30°	776.0	811.0	928.6	1063.8	1096.9
32.5°	745.8	788.6	922.8	1054.1	1063.8
35°	714.7	764.3	913.1	1019.1	1003.5
37.5°	685.5	738.1	900.4	954.9	917.9
40°	650.5	709.9	876.1	873.2	830.4
42.5°	617.5	679.7	845.0	790.6	755.6
45°	582.5	648.6	797.4	719.6	682.6
47.5°	545.5	614.6	737.1	652.5	626.2
50°	510.5	579.6	667.1	591.2	567.9
52.5°	472.6	542.6	600.0	536.8	516.3
55°	435.6	500.8	538.7	484.3	465.8
57.5°	398.7	459.9	482.3	434.7	420.1
60°	361.7	417.2	429.8	389.0	373.4
62.5°	325.8	377.3	381.2	345.2	331.6
65°	290.7	332.6	332.6	303.4	291.7
67.5°	253.8	289.8	287.8	260.6	253.8
70°	217.8	248.0	244.1	221.7	213.9
72.5°	183.8	206.1	203.2	185.7	177.0
75°	148.8	167.3	164.3	148.8	144.9
77.5°	115.7	128.4	125.4	114.7	111.8
80°	83.6	93.4	92.4	84.6	79.7
82.5°	56.4	61.3	60.3	55.4	52.5
85°	32.1	35.0	34.0	31.1	30.1
87.5°	12.6	14.6	15.6	14.6	13.6
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1439801
 CATALOG NUMBER: S123DR-H865D930-X4F0-XX-UDD-FLB-W

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	20.07	21.68	20.44	21.99	22.31	19.80	21.41	20.17	21.72	22.03
	3H	21.64	23.09	22.02	23.42	23.78	21.32	22.76	21.69	23.09	23.45
	4H	22.20	23.56	22.59	23.90	24.28	21.85	23.21	22.25	23.56	23.94
	6H	22.56	23.82	22.97	24.18	24.57	22.21	23.47	22.62	23.83	24.22
	8H	22.66	23.86	23.08	24.25	24.65	22.30	23.50	22.73	23.89	24.29
	12H	22.71	23.86	23.14	24.25	24.67	22.35	23.51	22.78	23.89	24.32
4H	2H	20.71	22.07	21.11	22.42	22.80	20.50	21.86	20.90	22.21	22.58
	3H	22.52	23.65	22.93	24.05	24.45	22.22	23.35	22.63	23.75	24.15
	4H	23.21	24.23	23.64	24.65	25.08	22.85	23.88	23.28	24.29	24.73
	6H	23.69	24.58	24.14	25.02	25.48	23.31	24.21	23.77	24.65	25.10
	8H	23.82	24.66	24.28	25.10	25.57	23.44	24.27	23.90	24.72	25.18
	12H	23.91	24.66	24.39	25.13	25.60	23.52	24.27	24.00	24.74	25.21
8H	4H	23.47	24.31	23.93	24.75	25.22	23.16	23.99	23.62	24.44	24.90
	6H	24.06	24.76	24.56	25.25	25.72	23.72	24.41	24.21	24.90	25.38
	8H	24.26	24.88	24.77	25.39	25.87	23.90	24.52	24.41	25.03	25.51
	12H	24.40	24.95	24.91	25.44	26.00	24.03	24.58	24.54	25.07	25.63
12H	4H	23.49	24.24	23.97	24.71	25.18	23.19	23.94	23.67	24.41	24.88
	6H	24.10	24.72	24.61	25.23	25.71	23.76	24.39	24.27	24.89	25.38
	8H	24.34	24.89	24.85	25.38	25.94	23.99	24.54	24.50	25.03	25.60