

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: P1439796

Luminaire Tested: S123DR-H865D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439796
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-H865D830-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

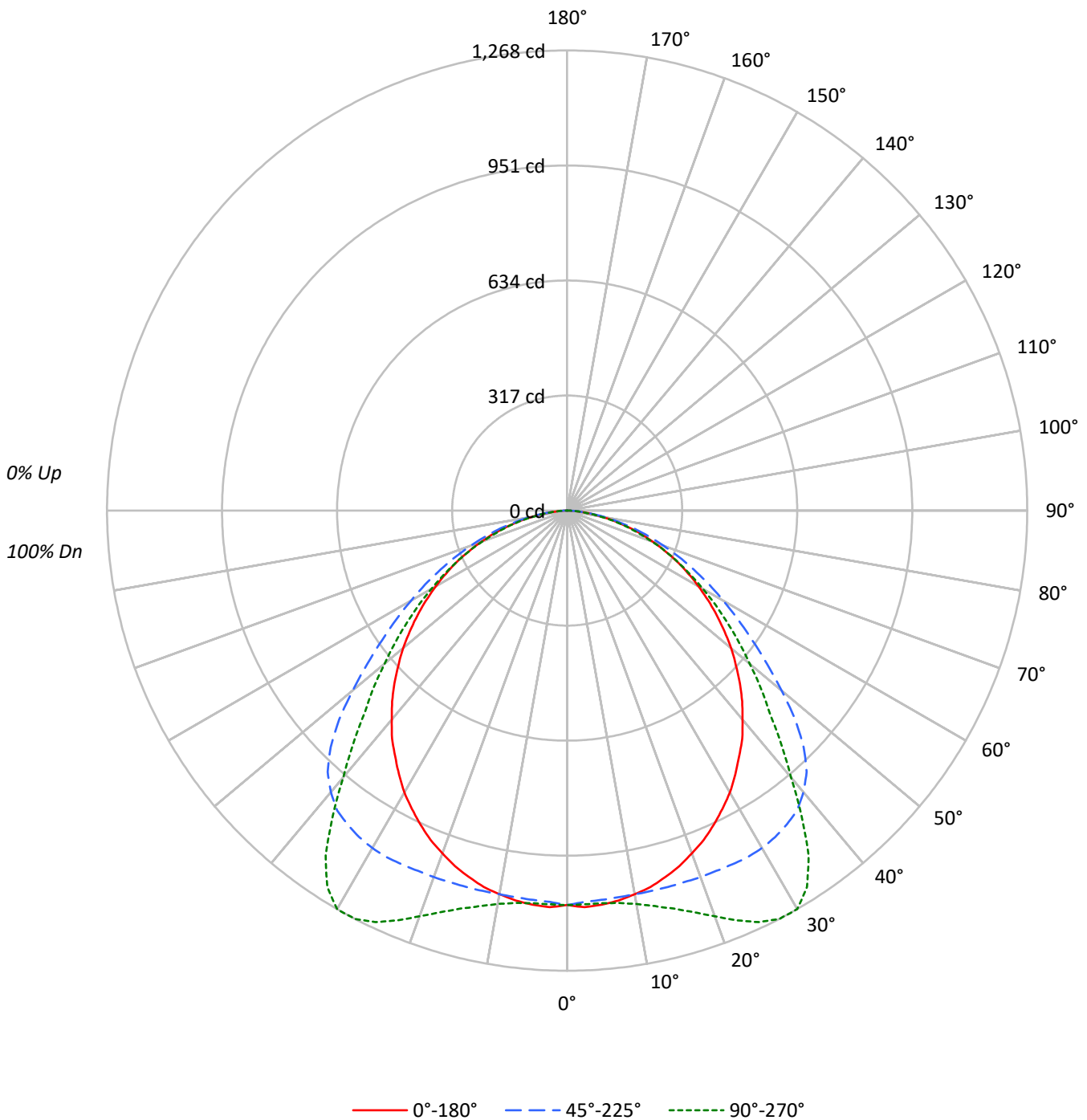
Lumens per Lamp: N/A
Luminaire Lumens: 3288.0 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

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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																												
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°	13107	13107	13107
5°	13197	13034	13142
10°	13143	13143	13474
15°	13050	13400	14172
20°	12894	13789	15260
25°	12711	14311	16644
30°	12489	14946	17654
35°	12162	15536	17075
40°	11837	15942	15109
45°	11482	15717	13456
50°	11070	14465	12314
55°	10586	13091	11319
60°	10084	11982	10410
65°	9588	10969	9620
70°	8876	9948	8717
75°	8012	8851	7803
80°	6714	7415	6401
85°	5132	5436	4814

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 15717 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.5	3.1
10°-20°	307.6	9.4
20°-30°	504.1	15.3
30°-40°	637.7	19.4
40°-50°	623.0	18.9
50°-60°	511.8	15.6
60°-70°	361.0	11.0
70°-80°	192.4	5.9
80°-90°	46.9	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°	915.2	27.8
0°-40°	1552.8	47.2
0°-60°	2687.6	81.7
0°-90°	3288.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3288.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1087	1087	1087	1087	1087	
5°	1090	1086	1077	1088	1086	104
15°	1046	1051	1074	1122	1135	295
25°	956	984	1076	1206	1251	440
35°	826	884	1056	1178	1160	517
45°	673	750	922	832	789	519
55°	504	579	623	560	538	450
65°	336	384	384	351	337	332
75°	172	193	190	172	168	183
85°	37	40	39	36	35	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1087.1	1087.1	1087.1	1087.1	1087.1
2.5°	1093.8	1090.4	1079.2	1089.3	1085.9
5°	1090.4	1085.9	1077.0	1088.2	1085.9
7.5°	1083.7	1081.4	1074.7	1091.6	1090.4
10°	1073.6	1072.5	1073.6	1098.3	1100.6
12.5°	1062.3	1063.5	1073.6	1108.4	1116.3
15°	1045.5	1051.1	1073.6	1121.9	1135.4
17.5°	1027.5	1036.5	1073.6	1139.9	1160.1
20°	1005.0	1020.7	1074.7	1159.0	1189.4
22.5°	982.5	1001.6	1074.7	1184.9	1222.0
25°	955.5	983.6	1075.8	1206.2	1251.2
27.5°	926.3	960.0	1077.0	1223.1	1268.1
30°	897.1	937.6	1073.6	1229.8	1268.1
32.5°	862.2	911.7	1066.8	1218.6	1229.8
35°	826.3	883.6	1055.6	1178.1	1160.1
37.5°	792.5	853.2	1041.0	1103.9	1061.2
40°	752.1	820.6	1012.9	1009.5	960.0
42.5°	713.8	785.8	976.9	913.9	873.5
45°	673.4	749.8	921.8	831.9	789.2
47.5°	630.7	710.5	852.1	754.3	724.0
50°	590.2	670.0	771.2	683.5	656.5
52.5°	546.3	627.3	693.6	620.5	596.9
55°	503.6	578.9	622.8	559.8	538.5
57.5°	460.9	531.7	557.6	502.5	485.6
60°	418.2	482.3	496.9	449.7	431.7
62.5°	376.6	436.2	440.7	399.1	383.3
65°	336.1	384.5	384.5	350.7	337.2
67.5°	293.4	335.0	332.8	301.3	293.4
70°	251.8	286.7	282.2	256.3	247.3
72.5°	212.5	238.3	235.0	214.7	204.6
75°	172.0	193.4	190.0	172.0	167.5
77.5°	133.8	148.4	145.0	132.7	129.3
80°	96.7	107.9	106.8	97.8	92.2
82.5°	65.2	70.8	69.7	64.1	60.7
85°	37.1	40.5	39.3	36.0	34.8
87.5°	14.6	16.9	18.0	16.9	15.7
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	20.58	22.18	20.94	22.50	22.81	20.30	21.91	20.67	22.22	22.54
	3H	22.15	23.59	22.52	23.92	24.28	21.82	23.27	22.20	23.59	23.95
	4H	22.70	24.06	23.10	24.41	24.78	22.36	23.72	22.75	24.06	24.44
	6H	23.06	24.32	23.48	24.69	25.08	22.71	23.97	23.12	24.34	24.73
	8H	23.16	24.36	23.59	24.75	25.15	22.81	24.01	23.23	24.40	24.80
	12H	23.22	24.37	23.65	24.75	25.18	22.86	24.01	23.29	24.39	24.82
4H	2H	21.22	22.58	21.61	22.92	23.30	21.00	22.36	21.40	22.71	23.09
	3H	23.02	24.16	23.43	24.56	24.96	22.72	23.85	23.13	24.25	24.65
	4H	23.71	24.74	24.14	25.15	25.59	23.36	24.38	23.79	24.79	25.23
	6H	24.19	25.09	24.65	25.53	25.98	23.82	24.71	24.27	25.15	25.61
	8H	24.33	25.16	24.79	25.60	26.07	23.94	24.78	24.40	25.22	25.69
	12H	24.41	25.16	24.89	25.64	26.11	24.02	24.77	24.50	25.25	25.72
8H	4H	23.98	24.81	24.44	25.25	25.72	23.66	24.50	24.13	24.94	25.41
	6H	24.57	25.26	25.06	25.75	26.23	24.22	24.92	24.72	25.41	25.88
	8H	24.76	25.38	25.27	25.89	26.38	24.40	25.03	24.91	25.53	26.02
	12H	24.90	25.45	25.41	25.94	26.50	24.53	25.08	25.04	25.57	26.14
12H	4H	23.99	24.74	24.47	25.22	25.69	23.69	24.44	24.17	24.92	25.39
	6H	24.60	25.22	25.11	25.73	26.22	24.27	24.89	24.78	25.40	25.89
	8H	24.84	25.39	25.35	25.88	26.45	24.50	25.05	25.01	25.54	26.10