

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: P1439803

Luminaire Tested: S123DR-H865D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439803  
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-H865D940-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

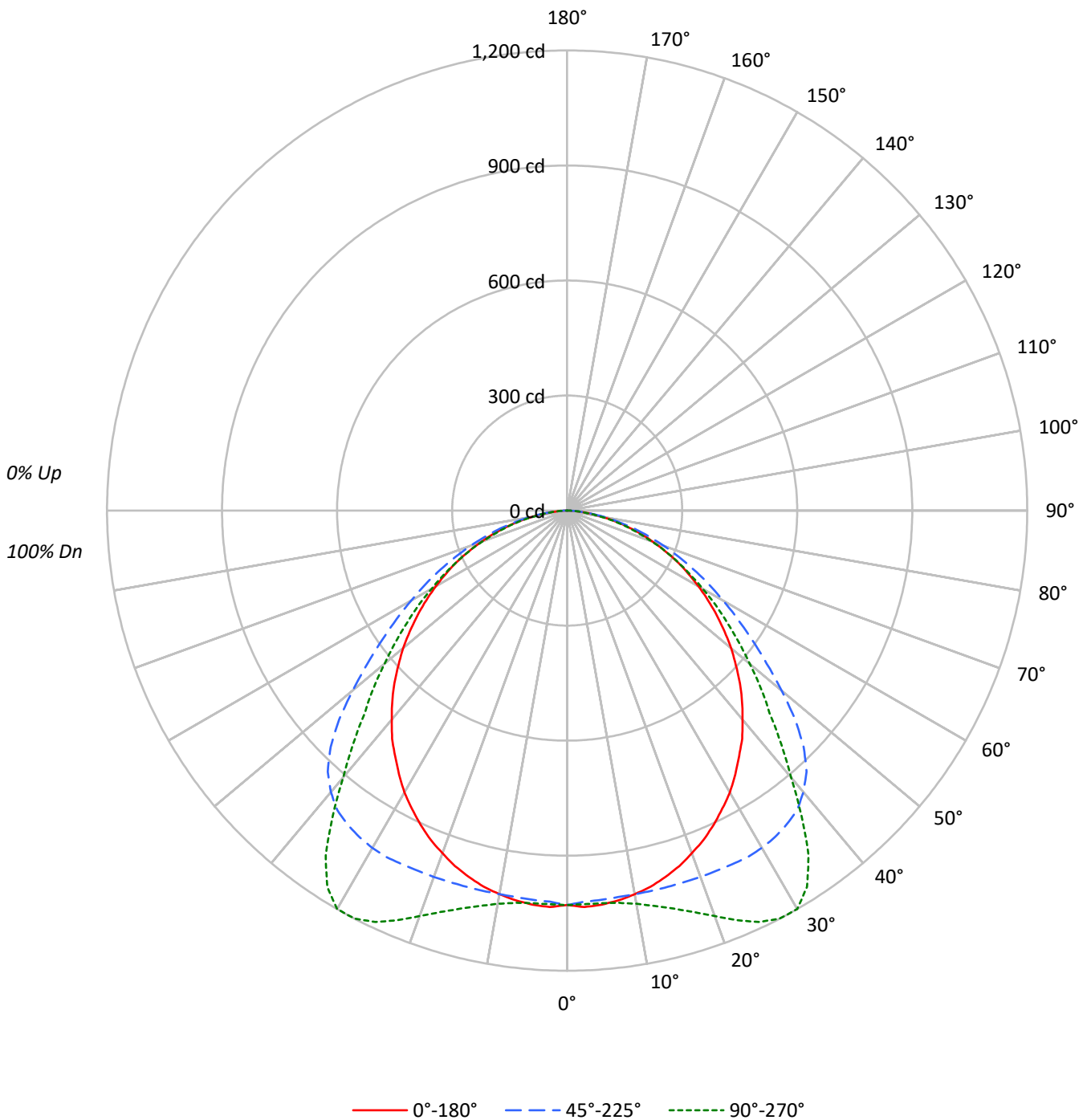
Lumens per Lamp: N/A  
Luminaire Lumens: 3110.6 lumens  
Efficiency: N/A  
Efficacy: 100.7 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct

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	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°	12399	12399	12399
5°	12485	12331	12434
10°	12435	12435	12747
15°	12346	12678	13408
20°	12199	13044	14436
25°	12026	13540	15746
30°	11815	14140	16702
35°	11505	14699	16155
40°	11198	15081	14295
45°	10863	14870	12730
50°	10474	13685	11650
55°	10016	12385	10707
60°	9539	11335	9848
65°	9072	10376	9103
70°	8397	9408	8249
75°	7579	8371	7383
80°	6353	7012	6054
85°	4855	5146	4565

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 14870 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.9	3.1
10°-20°	291.0	9.4
20°-30°	476.9	15.3
30°-40°	603.3	19.4
40°-50°	589.4	18.9
50°-60°	484.2	15.6
60°-70°	341.5	11.0
70°-80°	182.0	5.9
80°-90°	44.4	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°	865.8	27.8
0°-40°	1469.1	47.2
0°-60°	2542.7	81.7
0°-90°	3110.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3110.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1028	1028	1028	1028	1028	
5°	1032	1027	1019	1030	1027	98
15°	989	994	1016	1061	1074	279
25°	904	931	1018	1141	1184	416
35°	782	836	999	1115	1098	489
45°	637	709	872	787	747	491
55°	476	548	589	530	509	426
65°	318	364	364	332	319	314
75°	163	183	180	163	158	173
85°	35	38	37	34	33	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1028.4	1028.4	1028.4	1028.4	1028.4
2.5°	1034.8	1031.6	1021.0	1030.6	1027.4
5°	1031.6	1027.4	1018.9	1029.5	1027.4
7.5°	1025.3	1023.1	1016.7	1032.7	1031.6
10°	1015.7	1014.6	1015.7	1039.1	1041.2
12.5°	1005.0	1006.1	1015.7	1048.6	1056.1
15°	989.1	994.4	1015.7	1061.4	1074.2
17.5°	972.1	980.6	1015.7	1078.4	1097.6
20°	950.8	965.7	1016.7	1096.5	1125.2
22.5°	929.5	947.6	1016.7	1121.0	1156.1
25°	904.0	930.6	1017.8	1141.2	1183.7
27.5°	876.4	908.3	1018.9	1157.1	1199.7
30°	848.7	887.0	1015.7	1163.5	1199.7
32.5°	815.7	862.5	1009.3	1152.9	1163.5
35°	781.7	835.9	998.7	1114.6	1097.6
37.5°	749.8	807.2	984.8	1044.4	1004.0
40°	711.5	776.4	958.2	955.1	908.3
42.5°	675.3	743.4	924.2	864.7	826.4
45°	637.1	709.4	872.1	787.0	746.6
47.5°	596.6	672.2	806.2	713.6	684.9
50°	558.4	633.9	729.6	646.6	621.1
52.5°	516.9	593.5	656.2	587.1	564.7
55°	476.5	547.7	589.2	529.6	509.4
57.5°	436.1	503.1	527.5	475.4	459.4
60°	395.6	456.3	470.1	425.4	408.4
62.5°	356.3	412.7	416.9	377.6	362.7
65°	318.0	363.7	363.7	331.8	319.1
67.5°	277.6	316.9	314.8	285.0	277.6
70°	238.2	271.2	266.9	242.5	234.0
72.5°	201.0	225.5	222.3	203.1	193.6
75°	162.7	182.9	179.7	162.7	158.5
77.5°	126.6	140.4	137.2	125.5	122.3
80°	91.5	102.1	101.0	92.5	87.2
82.5°	61.7	67.0	65.9	60.6	57.4
85°	35.1	38.3	37.2	34.0	33.0
87.5°	13.8	16.0	17.0	16.0	14.9
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	20.39	21.99	20.75	22.30	22.62	20.11	21.72	20.48	22.03	22.35
	3H	21.96	23.40	22.33	23.73	24.09	21.63	23.07	22.00	23.40	23.76
	4H	22.51	23.87	22.91	24.21	24.59	22.16	23.52	22.56	23.87	24.25
	6H	22.87	24.13	23.28	24.50	24.89	22.52	23.78	22.93	24.14	24.54
	8H	22.97	24.17	23.40	24.56	24.96	22.61	23.82	23.04	24.20	24.60
	12H	23.03	24.18	23.46	24.56	24.99	22.67	23.82	23.10	24.20	24.63
4H	2H	21.02	22.38	21.42	22.73	23.11	20.81	22.17	21.21	22.52	22.89
	3H	22.83	23.97	23.24	24.36	24.76	22.53	23.66	22.94	24.06	24.46
	4H	23.52	24.54	23.95	24.96	25.39	23.16	24.19	23.60	24.60	25.04
	6H	24.00	24.89	24.46	25.33	25.79	23.62	24.52	24.08	24.96	25.41
	8H	24.13	24.97	24.60	25.41	25.88	23.75	24.58	24.21	25.03	25.49
	12H	24.22	24.97	24.70	25.44	25.91	23.83	24.58	24.31	25.05	25.52
8H	4H	23.78	24.62	24.25	25.06	25.53	23.47	24.31	23.93	24.75	25.21
	6H	24.38	25.07	24.87	25.56	26.03	24.03	24.72	24.53	25.21	25.69
	8H	24.57	25.19	25.08	25.70	26.18	24.21	24.83	24.72	25.34	25.83
	12H	24.71	25.26	25.22	25.75	26.31	24.34	24.89	24.85	25.38	25.94
12H	4H	23.80	24.55	24.28	25.03	25.50	23.50	24.25	23.98	24.72	25.19
	6H	24.41	25.03	24.92	25.54	26.02	24.08	24.70	24.59	25.21	25.69
	8H	24.65	25.20	25.16	25.69	26.25	24.30	24.85	24.81	25.35	25.91