

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: P1439787

Luminaire Tested: S123DR-H675D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439787  
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-H675D830-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**

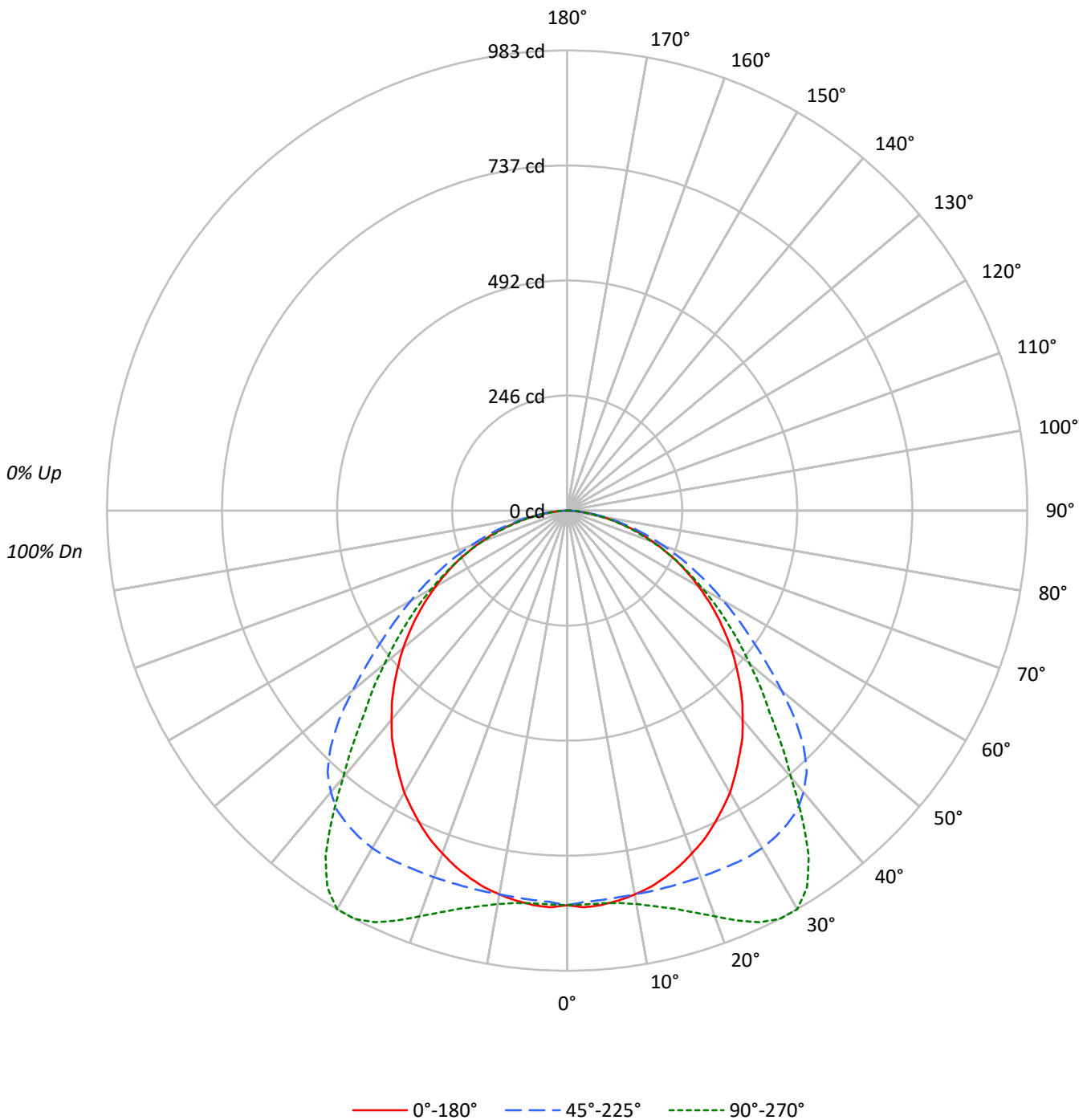
Lumens per Lamp: N/A  
Luminaire Lumens: 2549.5 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.8  
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	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°	10162	10162	10162
5°	10233	10107	10191
10°	10192	10192	10448
15°	10119	10391	10989
20°	9999	10691	11833
25°	9856	11097	12906
30°	9684	11590	13689
35°	9430	12047	13240
40°	9179	12361	11716
45°	8902	12188	10433
50°	8583	11216	9549
55°	8208	10150	8776
60°	7820	9291	8071
65°	7434	8504	7460
70°	6884	7713	6761
75°	6214	6862	6051
80°	5207	5749	4964
85°	3984	4219	3735

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 12188 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.3	3.1
10°-20°	238.5	9.4
20°-30°	390.9	15.3
30°-40°	494.4	19.4
40°-50°	483.1	18.9
50°-60°	396.9	15.6
60°-70°	279.9	11.0
70°-80°	149.2	5.9
80°-90°	36.4	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°	709.6	27.8
0°-40°	1204.1	47.2
0°-60°	2084.0	81.7
0°-90°	2549.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2549.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	843	843	843	843	843	
5°	846	842	835	844	842	80
15°	811	815	832	870	880	229
25°	741	763	834	935	970	341
35°	641	685	818	914	900	401
45°	522	581	715	645	612	402
55°	390	449	483	434	418	349
65°	261	298	298	272	262	257
75°	133	150	147	133	130	142
85°	29	31	30	28	27	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	842.9	842.9	842.9	842.9	842.9
2.5°	848.2	845.5	836.8	844.7	842.1
5°	845.5	842.1	835.1	843.8	842.1
7.5°	840.3	838.6	833.3	846.4	845.5
10°	832.5	831.6	832.5	851.6	853.4
12.5°	823.7	824.6	832.5	859.5	865.6
15°	810.7	815.0	832.5	869.9	880.4
17.5°	796.7	803.7	832.5	883.9	899.6
20°	779.3	791.5	833.3	898.7	922.3
22.5°	761.9	776.7	833.3	918.8	947.5
25°	740.9	762.7	834.2	935.3	970.2
27.5°	718.3	744.4	835.1	948.4	983.3
30°	695.6	727.0	832.5	953.6	983.3
32.5°	668.6	706.9	827.2	944.9	953.6
35°	640.7	685.2	818.5	913.5	899.6
37.5°	614.5	661.6	807.2	856.0	822.9
40°	583.2	636.3	785.4	782.8	744.4
42.5°	553.5	609.3	757.5	708.7	677.3
45°	522.1	581.4	714.8	645.1	611.9
47.5°	489.0	550.9	660.7	584.9	561.4
50°	457.6	519.5	598.0	530.0	509.1
52.5°	423.6	486.4	537.8	481.2	462.9
55°	390.5	448.9	482.9	434.1	417.5
57.5°	357.4	412.3	432.4	389.6	376.6
60°	324.3	374.0	385.3	348.7	334.7
62.5°	292.0	338.2	341.7	309.5	297.2
65°	260.6	298.1	298.1	272.0	261.5
67.5°	227.5	259.8	258.0	233.6	227.5
70°	195.3	222.3	218.8	198.7	191.8
72.5°	164.7	184.8	182.2	166.5	158.6
75°	133.4	149.9	147.3	133.4	129.9
77.5°	103.7	115.1	112.4	102.9	100.2
80°	75.0	83.7	82.8	75.8	71.5
82.5°	50.6	54.9	54.0	49.7	47.1
85°	28.8	31.4	30.5	27.9	27.0
87.5°	11.3	13.1	13.9	13.1	12.2
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	19.69	21.30	20.06	21.61	21.93	19.42	21.03	19.79	21.34	21.65
	3H	21.26	22.71	21.64	23.04	23.40	20.94	22.38	21.31	22.71	23.07
	4H	21.82	23.18	22.21	23.52	23.90	21.47	22.83	21.87	23.18	23.56
	6H	22.18	23.44	22.59	23.80	24.20	21.83	23.09	22.24	23.45	23.84
	8H	22.28	23.48	22.70	23.87	24.27	21.92	23.12	22.35	23.51	23.91
	12H	22.33	23.48	22.76	23.87	24.30	21.97	23.13	22.40	23.51	23.94
4H	2H	20.33	21.69	20.73	22.04	22.42	20.12	21.48	20.52	21.83	22.20
	3H	22.14	23.28	22.55	23.67	24.07	21.84	22.97	22.24	23.37	23.77
	4H	22.83	23.85	23.26	24.27	24.70	22.47	23.50	22.90	23.91	24.35
	6H	23.31	24.20	23.76	24.64	25.10	22.93	23.82	23.39	24.27	24.72
	8H	23.44	24.28	23.90	24.72	25.19	23.06	23.89	23.52	24.34	24.80
	12H	23.53	24.28	24.01	24.75	25.22	23.14	23.89	23.62	24.36	24.83
8H	4H	23.09	23.93	23.55	24.37	24.84	22.78	23.61	23.24	24.06	24.52
	6H	23.68	24.38	24.18	24.87	25.34	23.34	24.03	23.83	24.52	25.00
	8H	23.88	24.50	24.39	25.01	25.49	23.52	24.14	24.03	24.65	25.13
	12H	24.02	24.57	24.53	25.06	25.62	23.65	24.20	24.16	24.69	25.25
12H	4H	23.11	23.86	23.59	24.33	24.80	22.81	23.56	23.29	24.03	24.50
	6H	23.72	24.34	24.23	24.85	25.33	23.38	24.01	23.89	24.51	25.00
	8H	23.96	24.51	24.47	25.00	25.56	23.61	24.16	24.12	24.65	25.22