

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: P1439849

Luminaire Tested: S123DR-S865D950-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439849
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-S865D950-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

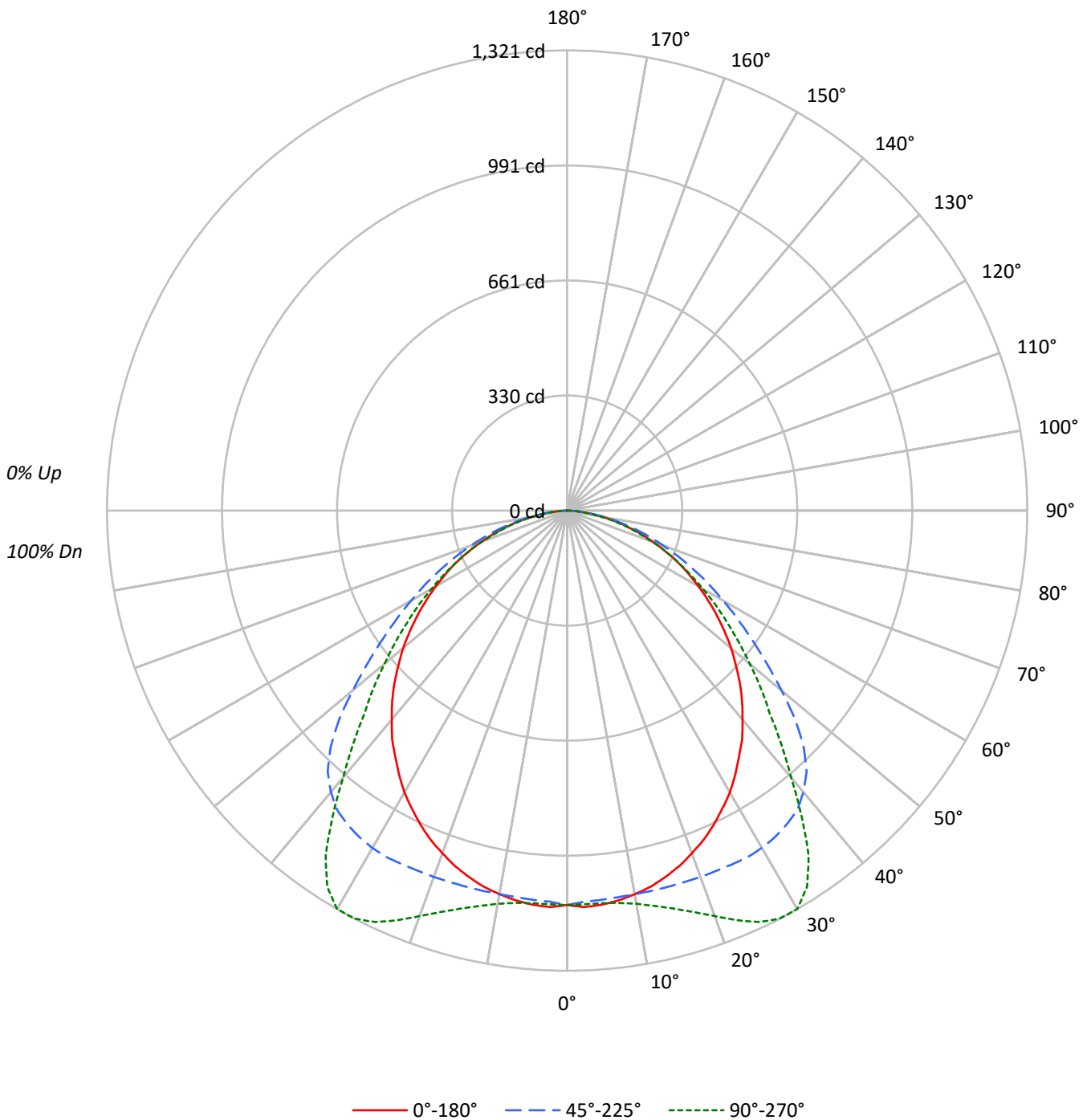
Lumens per Lamp: N/A
Luminaire Lumens: 3424.4 lumens
Efficiency: N/A
Efficacy: 98.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	13650	13650	13650
5°	13745	13575	13688
10°	13688	13688	14032
15°	13591	13956	14760
20°	13429	14361	15893
25°	13239	14906	17335
30°	13007	15566	18386
35°	12666	16181	17784
40°	12328	16603	15737
45°	11957	16370	14014
50°	11530	15065	12826
55°	11025	13633	11788
60°	10501	12478	10841
65°	9988	11423	10019
70°	9246	10360	9081
75°	8343	9219	8129
80°	6992	7721	6665
85°	5340	5672	5021

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 16370 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.8	3.1
10°-20°	320.3	9.4
20°-30°	525.0	15.3
30°-40°	664.1	19.4
40°-50°	648.9	18.9
50°-60°	533.0	15.6
60°-70°	376.0	11.0
70°-80°	200.4	5.9
80°-90°	48.8	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°	953.2	27.8
0°-40°	1617.3	47.2
0°-60°	2799.2	81.7
0°-90°	3424.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3424.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1132	1132	1132	1132	1132	
5°	1136	1131	1122	1133	1131	108
15°	1089	1095	1118	1168	1182	307
25°	995	1024	1120	1256	1303	458
35°	861	920	1099	1227	1208	539
45°	701	781	960	866	822	540
55°	524	603	649	583	561	469
65°	350	400	400	365	351	346
75°	179	201	198	179	174	190
85°	39	42	41	38	36	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1132.2	1132.2	1132.2	1132.2	1132.2
2.5°	1139.2	1135.7	1124.0	1134.5	1131.0
5°	1135.7	1131.0	1121.7	1133.4	1131.0
7.5°	1128.7	1126.3	1119.3	1136.9	1135.7
10°	1118.1	1117.0	1118.1	1143.9	1146.2
12.5°	1106.4	1107.6	1118.1	1154.4	1162.6
15°	1088.9	1094.7	1118.1	1168.5	1182.5
17.5°	1070.1	1079.5	1118.1	1187.2	1208.3
20°	1046.7	1063.1	1119.3	1207.1	1238.7
22.5°	1023.3	1043.2	1119.3	1234.1	1272.7
25°	995.2	1024.5	1120.5	1256.3	1303.1
27.5°	964.8	999.9	1121.7	1273.9	1320.7
30°	934.3	976.5	1118.1	1280.9	1320.7
32.5°	898.0	949.5	1111.1	1269.2	1280.9
35°	860.6	920.3	1099.4	1227.0	1208.3
37.5°	825.4	888.7	1084.2	1149.8	1105.3
40°	783.3	854.7	1054.9	1051.4	999.9
42.5°	743.5	818.4	1017.5	951.9	909.7
45°	701.3	780.9	960.1	866.4	821.9
47.5°	656.8	740.0	887.5	785.6	754.0
50°	614.7	697.8	803.2	711.9	683.8
52.5°	569.0	653.3	722.4	646.3	621.7
55°	524.5	603.0	648.6	583.1	560.8
57.5°	480.0	553.8	580.7	523.4	505.8
60°	435.5	502.3	517.5	468.3	449.6
62.5°	392.2	454.3	459.0	415.6	399.3
65°	350.1	400.4	400.4	365.3	351.2
67.5°	305.6	348.9	346.6	313.8	305.6
70°	262.3	298.6	293.9	266.9	257.6
72.5°	221.3	248.2	244.7	223.6	213.1
75°	179.1	201.4	197.9	179.1	174.5
77.5°	139.3	154.5	151.0	138.2	134.6
80°	100.7	112.4	111.2	101.9	96.0
82.5°	67.9	73.8	72.6	66.7	63.2
85°	38.6	42.1	41.0	37.5	36.3
87.5°	15.2	17.6	18.7	17.6	16.4
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	20.72	22.32	21.08	22.64	22.95	20.45	22.05	20.81	22.37	22.68
	3H	22.29	23.74	22.67	24.06	24.42	21.96	23.41	22.34	23.73	24.10
	4H	22.84	24.20	23.24	24.55	24.92	22.50	23.86	22.90	24.20	24.58
	6H	23.21	24.46	23.62	24.83	25.22	22.85	24.11	23.27	24.48	24.87
	8H	23.30	24.51	23.73	24.89	25.29	22.95	24.15	23.37	24.54	24.94
	12H	23.36	24.51	23.79	24.89	25.32	23.00	24.15	23.43	24.53	24.96
4H	2H	21.36	22.72	21.76	23.07	23.44	21.15	22.51	21.54	22.85	23.23
	3H	23.17	24.30	23.58	24.70	25.10	22.86	24.00	23.27	24.39	24.79
	4H	23.85	24.88	24.29	25.29	25.73	23.50	24.52	23.93	24.94	25.37
	6H	24.33	25.23	24.79	25.67	26.12	23.96	24.85	24.41	25.29	25.75
	8H	24.47	25.30	24.93	25.75	26.21	24.08	24.92	24.54	25.36	25.83
	12H	24.55	25.30	25.03	25.78	26.25	24.16	24.91	24.64	25.39	25.86
8H	4H	24.12	24.95	24.58	25.40	25.86	23.81	24.64	24.27	25.08	25.55
	6H	24.71	25.40	25.20	25.89	26.37	24.37	25.06	24.86	25.55	26.02
	8H	24.90	25.52	25.41	26.03	26.52	24.54	25.17	25.06	25.67	26.16
	12H	25.04	25.59	25.55	26.08	26.65	24.67	25.22	25.18	25.71	26.28
12H	4H	24.13	24.88	24.62	25.36	25.83	23.83	24.58	24.31	25.06	25.53
	6H	24.74	25.36	25.25	25.87	26.36	24.41	25.03	24.92	25.54	26.03
	8H	24.98	25.53	25.49	26.03	26.59	24.64	25.19	25.15	25.68	26.24