

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: P242616

Luminaire Tested: S124DRP-S1020D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242616  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-S1020D930-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

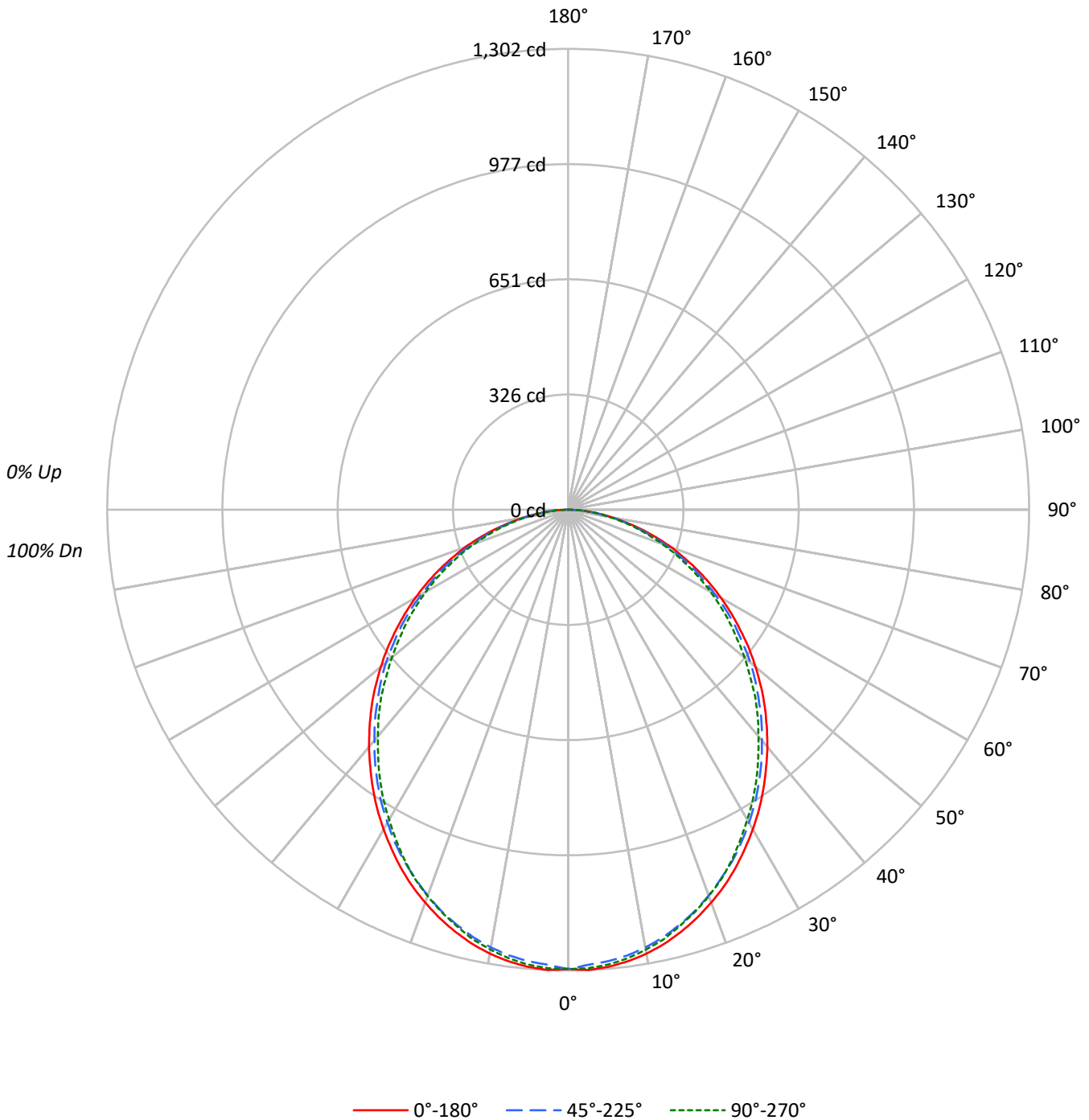
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3330.5 lumens  
Efficiency: N/A  
Efficacy: 95.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.8  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11534	11534	11534
5°	11568	11429	11513
10°	11496	11337	11393
15°	11357	11175	11204
20°	11172	10976	10986
25°	10962	10748	10717
30°	10703	10480	10383
35°	10436	10199	10064
40°	10158	9881	9699
45°	9868	9568	9384
50°	9547	9289	9001
55°	9201	8926	8637
60°	8853	8521	8261
65°	8464	8136	7807
70°	8026	7620	7324
75°	7357	6999	6821
80°	6547	6281	6122
85°	5722	5518	5405

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9868 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.3	3.7
10°-20°	344.6	10.3
20°-30°	507.1	15.2
30°-40°	589.5	17.7
40°-50°	589.4	17.7
50°-60°	515.5	15.5
60°-70°	382.7	11.5
70°-80°	217.2	6.5
80°-90°	62.2	1.9
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°	974.0	29.2
0°-40°	1563.4	46.9
0°-60°	2668.4	80.1
0°-90°	3330.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3330.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1298	1298	1298	1298	1298	
5°	1296	1292	1281	1292	1290	123
15°	1234	1230	1214	1221	1218	348
25°	1118	1110	1096	1097	1093	514
35°	962	954	940	933	927	601
45°	785	778	761	750	746	605
55°	594	591	576	564	557	532
65°	402	397	387	376	371	398
75°	214	209	204	200	199	227
85°	56	56	54	54	53	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1297.6	1297.6	1297.6	1297.6	1297.6
2.5°	1301.7	1298.6	1287.2	1297.6	1296.5
5°	1296.5	1292.4	1280.9	1292.4	1290.3
7.5°	1287.2	1283.0	1270.5	1279.9	1278.8
10°	1273.6	1269.5	1256.0	1264.3	1262.2
12.5°	1256.0	1251.8	1237.3	1246.6	1243.5
15°	1234.1	1230.0	1214.4	1220.6	1217.5
17.5°	1209.2	1204.0	1189.4	1193.6	1191.5
20°	1181.1	1175.9	1160.3	1163.4	1161.4
22.5°	1151.0	1143.7	1128.1	1134.3	1130.2
25°	1117.7	1110.4	1095.9	1096.9	1092.7
27.5°	1080.3	1073.0	1059.5	1057.4	1052.2
30°	1042.8	1034.5	1021.0	1016.8	1011.6
32.5°	1003.3	996.0	981.5	976.3	971.1
35°	961.7	954.5	939.9	932.6	927.4
37.5°	918.1	911.8	896.2	889.0	881.7
40°	875.4	867.1	851.5	841.1	835.9
42.5°	829.7	825.5	807.9	795.4	792.3
45°	785.0	777.7	761.1	749.6	746.5
47.5°	738.2	733.0	717.4	704.9	696.6
50°	690.4	686.2	671.7	657.1	650.9
52.5°	643.6	638.4	622.8	610.3	602.0
55°	593.7	590.6	576.0	563.5	557.3
57.5°	546.9	543.8	529.2	516.7	510.5
60°	498.0	492.8	479.3	469.9	464.7
62.5°	450.2	446.0	431.5	423.2	418.0
65°	402.4	397.2	386.8	376.4	371.2
67.5°	353.5	349.3	338.9	328.5	327.5
70°	308.8	301.5	293.2	284.9	281.8
72.5°	261.0	253.7	247.5	241.2	238.1
75°	214.2	209.0	203.8	199.6	198.6
77.5°	168.4	166.4	161.2	160.1	157.0
80°	127.9	124.8	122.7	120.6	119.6
82.5°	88.4	87.3	87.3	86.3	85.3
85°	56.1	56.1	54.1	54.1	53.0
87.5°	27.0	26.0	25.0	25.0	25.0
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	19.79	21.41	20.16	21.72	22.04	19.42	21.03	19.78	21.35	21.66
	3H	21.55	23.01	21.93	23.34	23.70	21.13	22.59	21.51	22.92	23.28
	4H	22.21	23.58	22.61	23.93	24.31	21.77	23.15	22.17	23.50	23.87
	6H	22.68	23.96	23.09	24.32	24.71	22.25	23.52	22.66	23.89	24.28
	8H	22.83	24.05	23.26	24.44	24.84	22.41	23.62	22.83	24.01	24.41
	12H	22.94	24.10	23.37	24.48	24.91	22.52	23.68	22.95	24.06	24.49
4H	2H	20.37	21.74	20.76	22.09	22.46	20.07	21.44	20.47	21.79	22.16
	3H	22.35	23.50	22.75	23.89	24.29	22.00	23.15	22.40	23.54	23.94
	4H	23.13	24.17	23.56	24.58	25.02	22.76	23.80	23.20	24.22	24.65
	6H	23.73	24.64	24.19	25.08	25.54	23.37	24.28	23.82	24.72	25.17
	8H	23.93	24.78	24.39	25.22	25.69	23.57	24.42	24.03	24.86	25.33
	12H	24.08	24.84	24.56	25.32	25.79	23.73	24.49	24.21	24.97	25.44
8H	4H	23.40	24.25	23.86	24.70	25.16	23.08	23.93	23.54	24.38	24.84
	6H	24.13	24.83	24.62	25.32	25.80	23.81	24.51	24.30	25.00	25.48
	8H	24.40	25.03	24.91	25.54	26.02	24.09	24.72	24.60	25.23	25.71
	12H	24.63	25.19	25.13	25.68	26.24	24.32	24.88	24.83	25.37	25.93
12H	4H	23.43	24.20	23.91	24.67	25.14	23.12	23.88	23.60	24.36	24.83
	6H	24.18	24.81	24.68	25.32	25.80	23.87	24.50	24.38	25.01	25.49
	8H	24.50	25.06	25.01	25.56	26.12	24.21	24.77	24.71	25.26	25.82