

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: P243359

Luminaire Tested: S123DRP-H1000D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243359
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-54)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H1000D830-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

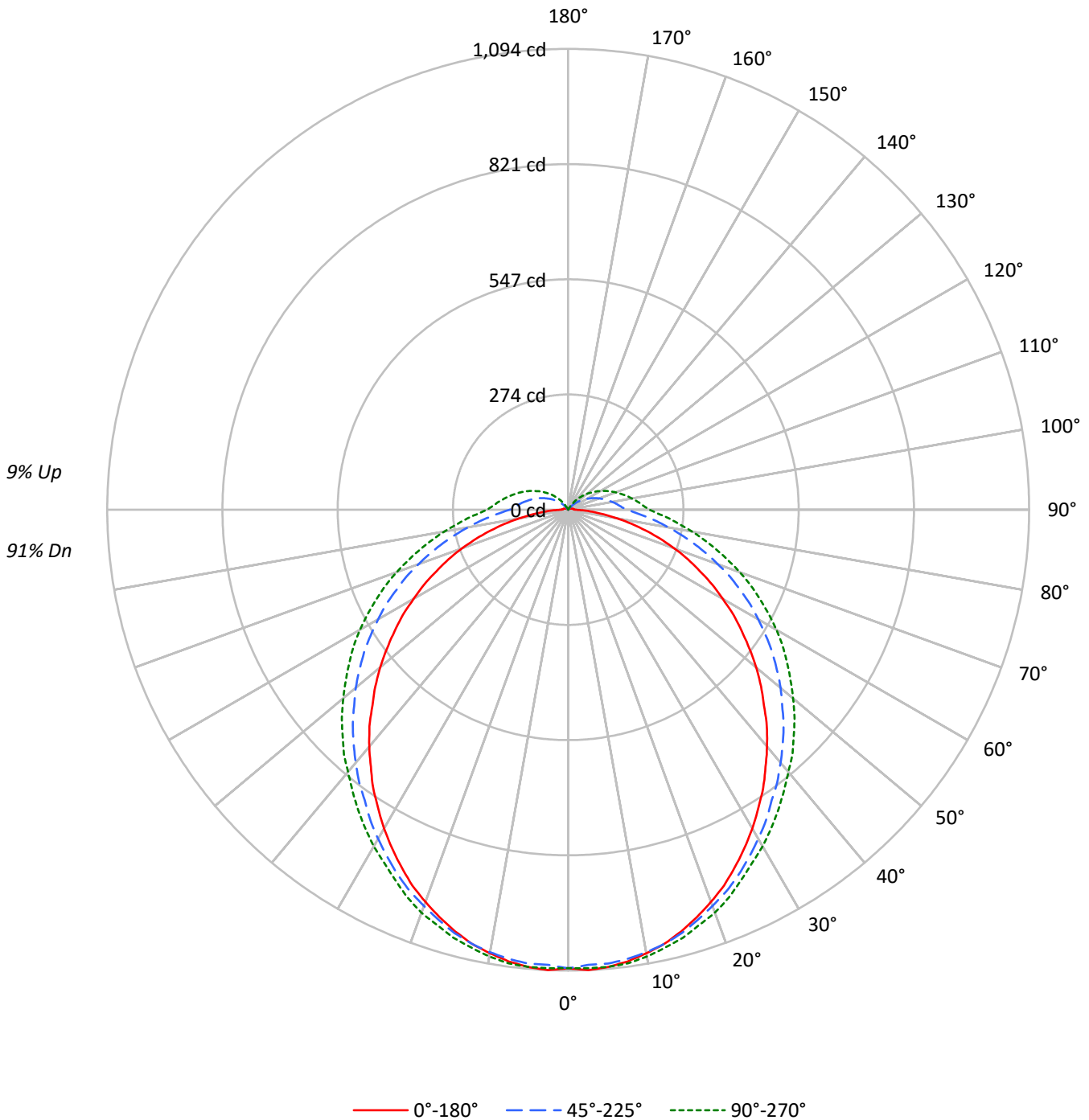
Lumens per Lamp: N/A
Luminaire Lumens: 3694.1 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 31.5
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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	105	100	95	90	101	96	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	91	83	77	71	78	73	68	74	69	65	69	66	62	60
3	86	75	66	60	83	73	65	58	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	45	42
5	72	59	50	43	70	57	49	42	54	47	41	51	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	60	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13193	13193	13193
5°	13232	12854	12848
10°	13109	12529	12457
15°	12929	12171	12030
20°	12681	11748	11597
25°	12398	11353	11097
30°	12081	10913	10674
35°	11763	10465	10253
40°	11413	10100	9852
45°	11027	9740	9516
50°	10704	9371	9167
55°	10309	8997	8824
60°	9893	8581	8492
65°	9459	8137	8083
70°	8961	7661	7685
75°	8215	7145	7217
80°	7273	6631	6804
85°	6464	6219	6490

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11027 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.3	2.8
10°-20°	294.6	8.0
20°-30°	441.2	11.9
30°-40°	527.9	14.3
40°-50°	553.6	15.0
50°-60°	520.4	14.1
60°-70°	435.5	11.8
70°-80°	312.6	8.5
80°-90°	187.2	5.1
90°-100°	118.7	3.2
100°-110°	87.5	2.4
110°-120°	58.6	1.6
120°-130°	33.8	0.9
130°-140°	15.6	0.4
140°-150°	3.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	839.1	22.7
0°-40°	1367.1	37.0
0°-60°	2441.1	66.1
0°-90°	3376.4	91.4
90°-120°	264.7	7.2
90°-150°	317.6	8.6
90°-180°	318.0	8.6
0°-180°	3694.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1088	1088	1088	1088	1088	
5°	1090	1088	1082	1091	1090	103
15°	1036	1043	1041	1054	1052	292
25°	936	949	957	972	970	431
35°	807	826	842	864	869	504
45°	657	690	723	748	757	508
55°	503	545	591	623	634	450
65°	345	396	449	489	502	342
75°	190	247	308	350	363	201
85°	58	118	184	226	241	59
90°	16	75	138	180	193	11
95°	12	61	120	159	171	10
105°	9	40	92	126	136	10
115°	6	20	65	94	104	6
125°	4	4	40	65	74	4
135°	2	1	17	38	44	2
145°	1	0	0	11	16	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1088.4	1088.4	1088.4	1088.4	1088.4
2.5°	1094.1	1090.7	1081.6	1091.8	1089.5
5°	1089.5	1088.4	1081.6	1090.7	1089.5
7.5°	1081.6	1081.6	1075.9	1086.1	1086.1
10°	1069.1	1072.5	1066.8	1078.2	1077.0
12.5°	1055.5	1060.0	1055.5	1068.0	1064.5
15°	1036.2	1043.0	1040.7	1054.3	1052.1
17.5°	1014.6	1022.6	1021.4	1035.0	1033.9
20°	990.8	1001.0	1001.0	1014.6	1018.0
22.5°	965.8	977.2	980.6	994.2	996.5
25°	936.3	948.8	956.7	971.5	970.4
27.5°	905.7	920.4	929.5	945.4	945.4
30°	873.9	890.9	902.3	919.3	922.7
32.5°	839.8	860.3	873.9	892.0	896.6
35°	806.9	826.2	842.1	863.7	869.3
37.5°	769.5	793.3	814.9	837.6	841.0
40°	734.3	760.4	784.2	808.1	812.6
42.5°	698.0	725.2	753.6	777.4	787.6
45°	657.1	690.0	722.9	747.9	757.0
47.5°	620.8	653.7	688.9	718.4	728.6
50°	582.2	616.3	658.2	686.6	696.8
52.5°	542.5	579.9	624.2	654.8	665.1
55°	502.8	544.8	591.3	623.1	634.4
57.5°	465.3	507.3	556.1	591.3	603.8
60°	423.3	469.9	520.9	557.2	570.9
62.5°	385.9	433.5	486.9	523.2	536.8
65°	345.0	396.1	449.4	489.1	501.6
67.5°	307.6	357.5	415.4	455.1	468.7
70°	267.8	320.0	377.9	418.8	433.5
72.5°	228.1	283.7	342.7	384.7	397.2
75°	189.5	247.4	307.6	349.6	363.2
77.5°	153.2	211.1	273.5	315.5	330.3
80°	116.9	177.0	241.7	283.7	298.5
82.5°	85.1	146.4	212.2	253.1	266.7
85°	57.9	118.0	183.9	225.8	240.6
87.5°	34.0	95.3	158.9	200.9	213.4
90°	15.9	74.9	138.5	180.5	192.9
92.5°	14.8	67.0	128.2	168.0	180.5
95°	12.5	61.3	120.3	158.9	171.4
97.5°	12.5	55.6	113.5	150.9	162.3
100°	11.3	49.9	106.7	141.9	153.2
102.5°	10.2	44.3	98.7	133.9	145.3
105°	9.1	39.7	91.9	126.0	136.2
107.5°	7.9	34.0	85.1	118.0	128.2
110°	7.9	29.5	78.3	110.1	120.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.8	25.0	71.5	102.1	112.4
115°	5.7	20.4	64.7	94.2	104.4
117.5°	5.7	15.9	57.9	87.4	96.5
120°	5.7	12.5	52.2	79.4	88.5
122.5°	4.5	7.9	46.5	72.6	81.7
125°	4.5	4.5	39.7	64.7	73.8
127.5°	3.4	2.3	34.0	57.9	65.8
130°	3.4	2.3	28.4	51.1	59.0
132.5°	2.3	2.3	22.7	44.3	52.2
135°	2.3	1.1	17.0	37.5	44.3
137.5°	2.3	1.1	11.3	30.6	37.5
140°	1.1	1.1	5.7	23.8	30.6
142.5°	1.1	0.0	1.1	18.2	23.8
145°	1.1	0.0	0.0	11.3	15.9
147.5°	1.1	0.0	0.0	5.7	10.2
150°	1.1	0.0	0.0	0.0	3.4
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	18.00	19.50	18.49	19.98	20.51	20.07	21.57	20.56	22.05	22.57
	3H	19.55	20.92	20.05	21.41	21.98	22.46	23.83	22.97	24.33	24.89
	4H	20.08	21.37	20.60	21.88	22.46	23.58	24.88	24.10	25.39	25.96
	6H	20.42	21.62	20.95	22.15	22.74	24.70	25.91	25.24	26.44	27.03
	8H	20.50	21.66	21.05	22.21	22.80	25.27	26.42	25.82	26.97	27.57
	12H	20.55	21.66	21.11	22.20	22.83	25.88	26.99	26.44	27.54	28.16
4H	2H	18.91	20.21	19.44	20.72	21.30	20.52	21.81	21.04	22.33	22.90
	3H	20.71	21.82	21.25	22.37	22.97	23.13	24.23	23.67	24.79	25.38
	4H	21.38	22.40	21.94	22.96	23.59	24.40	25.41	24.96	25.98	26.61
	6H	21.85	22.75	22.43	23.34	23.98	25.70	26.60	26.28	27.19	27.83
	8H	21.99	22.83	22.57	23.42	24.07	26.36	27.20	26.95	27.79	28.45
	12H	22.07	22.84	22.68	23.45	24.11	27.09	27.85	27.70	28.47	29.13
8H	4H	22.03	22.87	22.61	23.46	24.11	24.63	25.47	25.21	26.05	26.71
	6H	22.68	23.40	23.30	24.03	24.69	26.08	26.80	26.70	27.43	28.09
	8H	22.92	23.56	23.55	24.20	24.87	26.87	27.51	27.50	28.15	28.82
	12H	23.09	23.66	23.72	24.29	25.03	27.77	28.34	28.40	28.97	29.70
12H	4H	22.19	22.95	22.79	23.57	24.23	24.64	25.40	25.24	26.01	26.67
	6H	22.93	23.58	23.56	24.21	24.89	26.13	26.77	26.75	27.41	28.08
	8H	23.26	23.83	23.89	24.46	25.20	26.98	27.55	27.61	28.18	28.92