

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: P242513

Luminaire Tested: S123DRP-S1000D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242513
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S1000D930-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

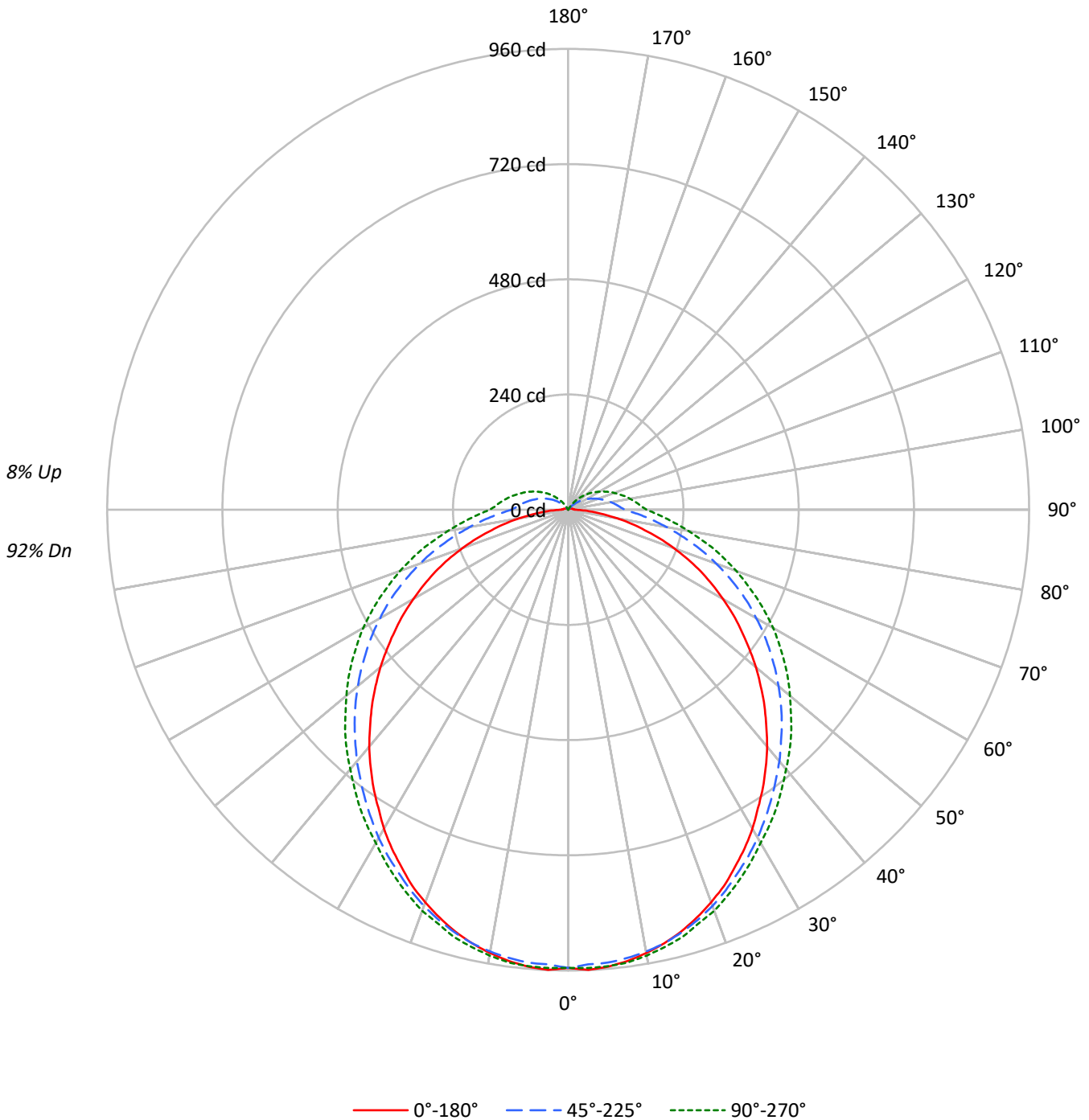
Lumens per Lamp: N/A
Luminaire Lumens: 3207.7 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	92
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	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	24	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11570	11570	11570
5°	11604	11257	11256
10°	11499	10977	10907
15°	11350	10664	10534
20°	11138	10311	10127
25°	10877	9908	9702
30°	10608	9544	9273
35°	10306	9162	8927
40°	10019	8811	8560
45°	9701	8474	8260
50°	9386	8141	7933
55°	9038	7799	7636
60°	8699	7451	7330
65°	8351	7078	6970
70°	7827	6659	6599
75°	7166	6183	6219
80°	6402	5703	5783
85°	5682	5343	5497

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9701 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.5	2.8
10°-20°	258.1	8.0
20°-30°	386.0	12.0
30°-40°	460.8	14.4
40°-50°	482.2	15.0
50°-60°	452.5	14.1
60°-70°	377.9	11.8
70°-80°	270.3	8.4
80°-90°	160.8	5.0
90°-100°	101.1	3.2
100°-110°	74.3	2.3
110°-120°	49.6	1.5
120°-130°	28.3	0.9
130°-140°	12.7	0.4
140°-150°	2.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	734.6	22.9
0°-40°	1195.5	37.3
0°-60°	2130.1	66.4
0°-90°	2939.1	91.6
90°-120°	224.9	7.0
90°-150°	268.6	8.4
90°-180°	269.0	8.4
0°-180°	3207.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	954	954	954	954	954	
5°	956	953	947	956	954	91
15°	910	913	912	922	921	256
25°	821	832	835	848	848	379
35°	707	724	737	753	757	442
45°	578	603	629	649	657	446
55°	441	475	513	541	549	395
65°	305	345	391	422	432	301
75°	165	214	266	300	313	177
85°	51	103	158	193	204	52
90°	14	64	118	153	163	10
95°	11	52	103	135	146	9
105°	8	33	78	107	116	8
115°	5	18	55	80	88	5
125°	3	3	33	55	62	3
135°	2	1	12	31	36	2
145°	1	0	0	8	12	0
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°	954.5	954.5	954.5	954.5	954.5
2.5°	959.7	956.5	948.2	956.5	955.5
5°	955.5	953.4	947.2	955.5	954.5
7.5°	948.2	948.2	942.0	952.4	951.3
10°	937.8	939.9	934.7	945.1	943.0
12.5°	925.3	928.5	925.3	934.7	932.6
15°	909.7	912.9	911.8	922.2	921.2
17.5°	891.0	897.3	896.2	905.6	903.5
20°	870.2	876.5	878.6	887.9	889.0
22.5°	848.4	854.6	857.8	870.2	869.2
25°	821.4	831.8	834.9	848.4	848.4
27.5°	795.4	806.8	813.1	824.5	825.5
30°	767.3	780.8	789.1	801.6	801.6
32.5°	736.1	751.7	763.1	776.7	779.8
35°	707.0	723.6	737.2	752.7	756.9
37.5°	675.8	694.5	710.1	727.8	730.9
40°	644.6	663.3	684.1	701.8	706.0
42.5°	610.3	634.2	656.1	675.8	682.0
45°	578.1	603.0	629.0	648.8	657.1
47.5°	543.8	571.8	601.0	622.8	629.0
50°	510.5	539.6	571.8	595.8	603.0
52.5°	475.1	506.3	542.7	567.7	577.0
55°	440.8	475.1	512.6	540.6	549.0
57.5°	407.6	442.9	483.5	511.5	520.9
60°	372.2	409.6	452.3	481.4	492.8
62.5°	338.9	377.4	423.2	452.3	462.7
65°	304.6	345.2	390.9	422.1	432.5
67.5°	270.3	313.0	358.7	393.0	401.3
70°	233.9	278.6	328.5	361.8	372.2
72.5°	200.7	245.4	297.4	331.7	342.1
75°	165.3	214.2	266.2	300.5	313.0
77.5°	135.2	184.0	236.0	272.4	281.8
80°	102.9	153.9	207.9	243.3	253.7
82.5°	74.9	126.8	181.9	217.3	227.7
85°	50.9	102.9	158.0	193.4	203.8
87.5°	31.2	83.2	136.2	171.6	181.9
90°	13.5	64.5	117.5	152.8	163.2
92.5°	12.5	57.2	109.2	143.5	152.8
95°	11.4	52.0	102.9	135.2	145.6
97.5°	10.4	47.8	96.7	127.9	138.3
100°	9.4	42.6	90.5	120.6	131.0
102.5°	8.3	37.4	84.2	113.3	123.7
105°	8.3	33.3	78.0	107.1	116.4
107.5°	7.3	29.1	71.7	99.8	109.2
110°	6.2	25.0	66.5	93.6	101.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.2	20.8	60.3	86.3	95.7
115°	5.2	17.7	55.1	80.1	88.4
117.5°	5.2	13.5	48.9	73.8	82.1
120°	4.2	9.4	43.7	67.6	74.9
122.5°	4.2	6.2	38.5	61.3	68.6
125°	3.1	3.1	33.3	55.1	62.4
127.5°	3.1	2.1	28.1	48.9	56.1
130°	3.1	2.1	22.9	42.6	48.9
132.5°	2.1	2.1	17.7	36.4	43.7
135°	2.1	1.0	12.5	31.2	36.4
137.5°	2.1	1.0	8.3	25.0	30.2
140°	1.0	1.0	4.2	19.8	25.0
142.5°	1.0	0.0	0.0	13.5	18.7
145°	1.0	0.0	0.0	8.3	12.5
147.5°	0.0	0.0	0.0	3.1	7.3
150°	0.0	0.0	0.0	0.0	2.1
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	17.56	19.06	18.05	19.54	20.06	19.55	21.06	20.04	21.54	22.06
	3H	19.11	20.49	19.62	20.98	21.53	21.93	23.30	22.43	23.80	24.35
	4H	19.64	20.94	20.16	21.44	22.01	23.05	24.35	23.57	24.85	25.42
	6H	19.98	21.19	20.52	21.71	22.30	24.15	25.36	24.69	25.88	26.47
	8H	20.07	21.23	20.62	21.77	22.36	24.71	25.87	25.26	26.41	27.00
	12H	20.12	21.23	20.67	21.77	22.39	25.32	26.43	25.87	26.96	27.59
4H	2H	18.46	19.76	18.99	20.27	20.84	20.01	21.31	20.54	21.82	22.39
	3H	20.27	21.37	20.80	21.92	22.52	22.61	23.71	23.14	24.26	24.86
	4H	20.93	21.94	21.49	22.50	23.13	23.88	24.89	24.43	25.45	26.07
	6H	21.41	22.30	21.98	22.88	23.52	25.16	26.05	25.73	26.64	27.28
	8H	21.54	22.38	22.12	22.97	23.62	25.81	26.65	26.39	27.24	27.89
	12H	21.63	22.39	22.23	23.00	23.66	26.53	27.29	27.13	27.90	28.56
8H	4H	21.57	22.41	22.15	22.99	23.64	24.10	24.94	24.68	25.53	26.18
	6H	22.22	22.93	22.83	23.56	24.22	25.54	26.25	26.15	26.88	27.54
	8H	22.45	23.10	23.08	23.73	24.40	26.32	26.96	26.94	27.60	28.26
	12H	22.63	23.20	23.25	23.82	24.56	27.20	27.77	27.83	28.40	29.13
12H	4H	21.72	22.48	22.32	23.10	23.75	24.11	24.87	24.71	25.49	26.14
	6H	22.46	23.11	23.09	23.74	24.41	25.58	26.23	26.21	26.86	27.53
	8H	22.79	23.36	23.41	23.98	24.72	26.43	27.00	27.05	27.62	28.36