

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: P243351

Luminaire Tested: S123DRP-H340D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243351
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-H340D927-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

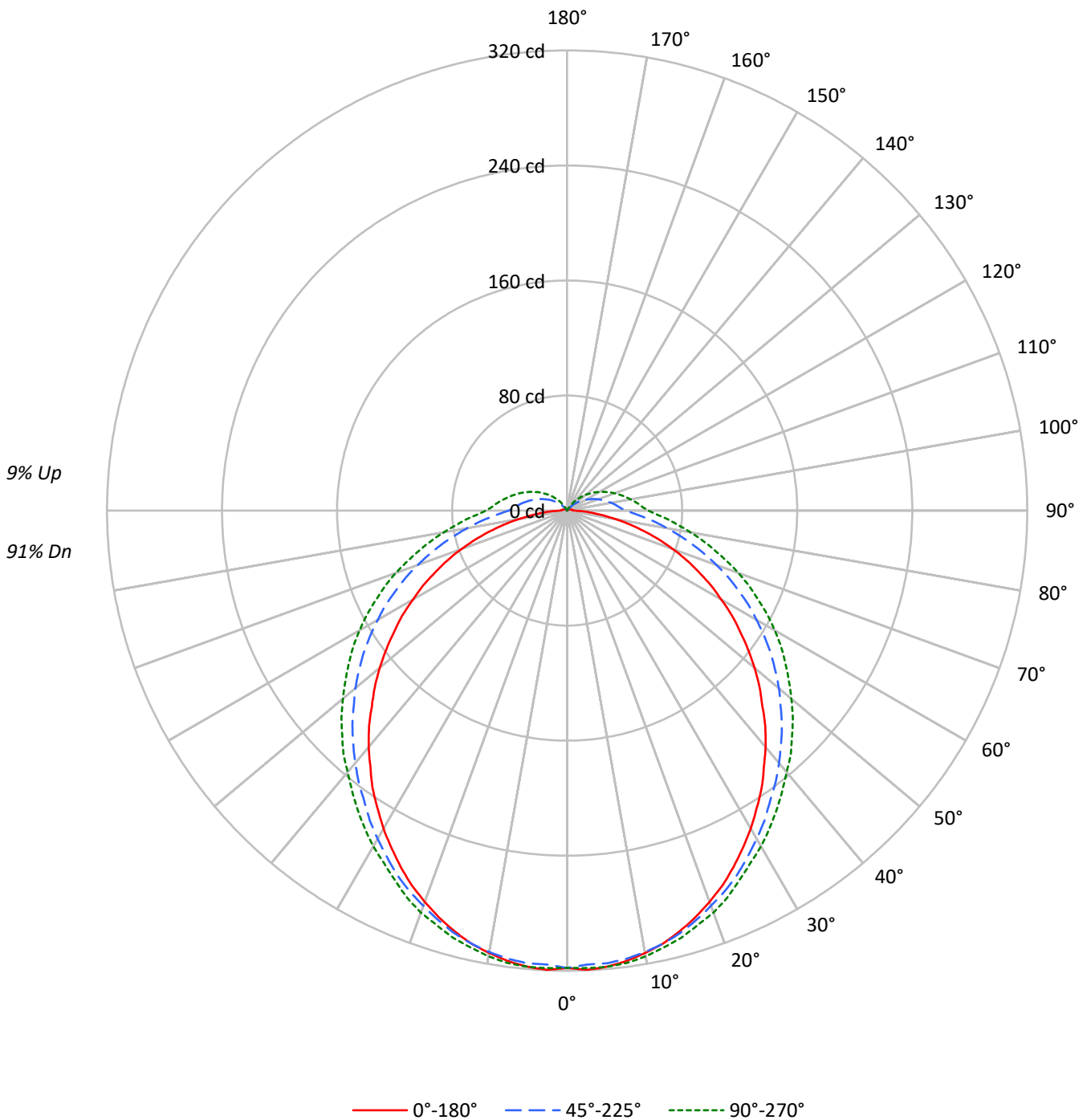
Lumens per Lamp: N/A
Luminaire Lumens: 1079.4 lumens
Efficiency: N/A
Efficacy: 96.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 11.2
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

TEST NUMBER: P243351

CATALOG NUMBER: S123DRP-H340D927-X4F0-XX-UDD-D-W

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°	3855	3855	3855
5°	3867	3755	3755
10°	3831	3661	3640
15°	3778	3557	3515
20°	3705	3433	3389
25°	3623	3318	3242
30°	3531	3188	3119
35°	3437	3058	2996
40°	3335	2952	2878
45°	3222	2845	2781
50°	3127	2738	2679
55°	3012	2629	2579
60°	2891	2507	2481
65°	2764	2377	2362
70°	2620	2238	2246
75°	2402	2088	2108
80°	2128	1937	1988
85°	1887	1816	1896

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3222 cd/sqm



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CATALOG NUMBER: S123DRP-H340D927-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.2	2.8
10°-20°	86.1	8.0
20°-30°	128.9	11.9
30°-40°	154.3	14.3
40°-50°	161.8	15.0
50°-60°	152.1	14.1
60°-70°	127.3	11.8
70°-80°	91.3	8.5
80°-90°	54.7	5.1
90°-100°	34.7	3.2
100°-110°	25.6	2.4
110°-120°	17.1	1.6
120°-130°	9.9	0.9
130°-140°	4.5	0.4
140°-150°	1.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	245.2	22.7
0°-40°	399.5	37.0
0°-60°	713.3	66.1
0°-90°	986.6	91.4
90°-120°	77.4	7.2
90°-150°	92.8	8.6
90°-180°	93.0	8.6
0°-180°	1079.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	318	318	318	318	318	
5°	318	318	316	319	318	30
15°	303	305	304	308	307	85
25°	274	277	280	284	284	126
35°	236	241	246	252	254	147
45°	192	202	211	218	221	149
55°	147	159	173	182	185	132
65°	101	116	131	143	147	100
75°	55	72	90	102	106	59
85°	17	34	54	66	70	17
90°	5	22	40	53	56	3
95°	4	18	35	46	50	3
105°	3	12	27	37	40	3
115°	2	6	19	28	30	2
125°	1	1	12	19	22	1
135°	1	0	5	11	13	1
145°	0	0	0	3	5	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°	318.0	318.0	318.0	318.0	318.0
2.5°	319.7	318.7	316.0	319.0	318.4
5°	318.4	318.0	316.0	318.7	318.4
7.5°	316.0	316.0	314.4	317.4	317.4
10°	312.4	313.4	311.7	315.1	314.7
12.5°	308.4	309.7	308.4	312.1	311.1
15°	302.8	304.8	304.1	308.1	307.4
17.5°	296.5	298.8	298.5	302.4	302.1
20°	289.5	292.5	292.5	296.5	297.5
22.5°	282.2	285.5	286.5	290.5	291.2
25°	273.6	277.2	279.6	283.9	283.5
27.5°	264.6	269.0	271.6	276.2	276.2
30°	255.4	260.3	263.6	268.6	269.6
32.5°	245.4	251.4	255.4	260.7	262.0
35°	235.8	241.4	246.1	252.4	254.0
37.5°	224.8	231.8	238.1	244.7	245.7
40°	214.6	222.2	229.2	236.1	237.4
42.5°	204.0	211.9	220.2	227.2	230.2
45°	192.0	201.6	211.2	218.5	221.2
47.5°	181.4	191.0	201.3	209.9	212.9
50°	170.1	180.1	192.3	200.6	203.6
52.5°	158.5	169.5	182.4	191.4	194.3
55°	146.9	159.2	172.8	182.1	185.4
57.5°	136.0	148.2	162.5	172.8	176.4
60°	123.7	137.3	152.2	162.8	166.8
62.5°	112.8	126.7	142.3	152.9	156.9
65°	100.8	115.7	131.3	142.9	146.6
67.5°	89.9	104.5	121.4	133.0	137.0
70°	78.3	93.5	110.4	122.4	126.7
72.5°	66.7	82.9	100.2	112.4	116.1
75°	55.4	72.3	89.9	102.1	106.1
77.5°	44.8	61.7	79.9	92.2	96.5
80°	34.2	51.7	70.6	82.9	87.2
82.5°	24.9	42.8	62.0	74.0	77.9
85°	16.9	34.5	53.7	66.0	70.3
87.5°	9.9	27.9	46.4	58.7	62.3
90°	4.6	21.9	40.5	52.7	56.4
92.5°	4.3	19.6	37.5	49.1	52.7
95°	3.6	17.9	35.2	46.4	50.1
97.5°	3.6	16.2	33.2	44.1	47.4
100°	3.3	14.6	31.2	41.5	44.8
102.5°	3.0	12.9	28.9	39.1	42.4
105°	2.7	11.6	26.9	36.8	39.8
107.5°	2.3	9.9	24.9	34.5	37.5
110°	2.3	8.6	22.9	32.2	35.2



TEST NUMBER: P243351

CATALOG NUMBER: S123DRP-H340D927-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	7.3	20.9	29.8	32.8
115°	1.7	6.0	18.9	27.5	30.5
117.5°	1.7	4.6	16.9	25.5	28.2
120°	1.7	3.6	15.3	23.2	25.9
122.5°	1.3	2.3	13.6	21.2	23.9
125°	1.3	1.3	11.6	18.9	21.6
127.5°	1.0	0.7	9.9	16.9	19.2
130°	1.0	0.7	8.3	14.9	17.2
132.5°	0.7	0.7	6.6	12.9	15.3
135°	0.7	0.3	5.0	10.9	12.9
137.5°	0.7	0.3	3.3	9.0	10.9
140°	0.3	0.3	1.7	7.0	9.0
142.5°	0.3	0.0	0.3	5.3	7.0
145°	0.3	0.0	0.0	3.3	4.6
147.5°	0.3	0.0	0.0	1.7	3.0
150°	0.3	0.0	0.0	0.0	1.0
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	13.72	15.22	14.21	15.71	16.23	15.79	17.29	16.28	17.78	18.30
	3H	15.28	16.64	15.78	17.14	17.70	18.19	19.56	18.69	20.05	20.61
	4H	15.80	17.10	16.33	17.61	18.19	19.30	20.60	19.83	21.11	21.69
	6H	16.14	17.35	16.68	17.87	18.47	20.43	21.64	20.97	22.16	22.75
	8H	16.23	17.39	16.78	17.93	18.53	20.99	22.15	21.54	22.70	23.29
	12H	16.28	17.39	16.83	17.93	18.55	21.61	22.72	22.17	23.26	23.89
4H	2H	14.64	15.94	15.16	16.45	17.02	16.24	17.54	16.77	18.05	18.63
	3H	16.44	17.55	16.98	18.10	18.70	18.85	19.96	19.39	20.51	21.11
	4H	17.11	18.12	17.67	18.68	19.31	20.13	21.14	20.69	21.70	22.33
	6H	17.58	18.47	18.16	19.06	19.70	21.43	22.32	22.01	22.91	23.55
	8H	17.72	18.56	18.30	19.14	19.80	22.09	22.93	22.67	23.52	24.17
	12H	17.80	18.56	18.41	19.18	19.84	22.82	23.58	23.42	24.20	24.86
8H	4H	17.75	18.59	18.34	19.18	19.84	20.35	21.19	20.93	21.78	22.43
	6H	18.41	19.12	19.03	19.75	20.41	21.81	22.52	22.43	23.15	23.81
	8H	18.64	19.28	19.27	19.92	20.60	22.60	23.24	23.22	23.88	24.55
	12H	18.81	19.39	19.44	20.01	20.75	23.49	24.06	24.12	24.69	25.43
12H	4H	17.91	18.68	18.52	19.29	19.95	20.36	21.12	20.97	21.74	22.40
	6H	18.66	19.30	19.29	19.94	20.61	21.85	22.49	22.48	23.13	23.81
	8H	18.98	19.56	19.61	20.18	20.92	22.70	23.27	23.33	23.90	24.64