

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: P243375

Luminaire Tested: S123DRP-H340D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243375
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-H340D935-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

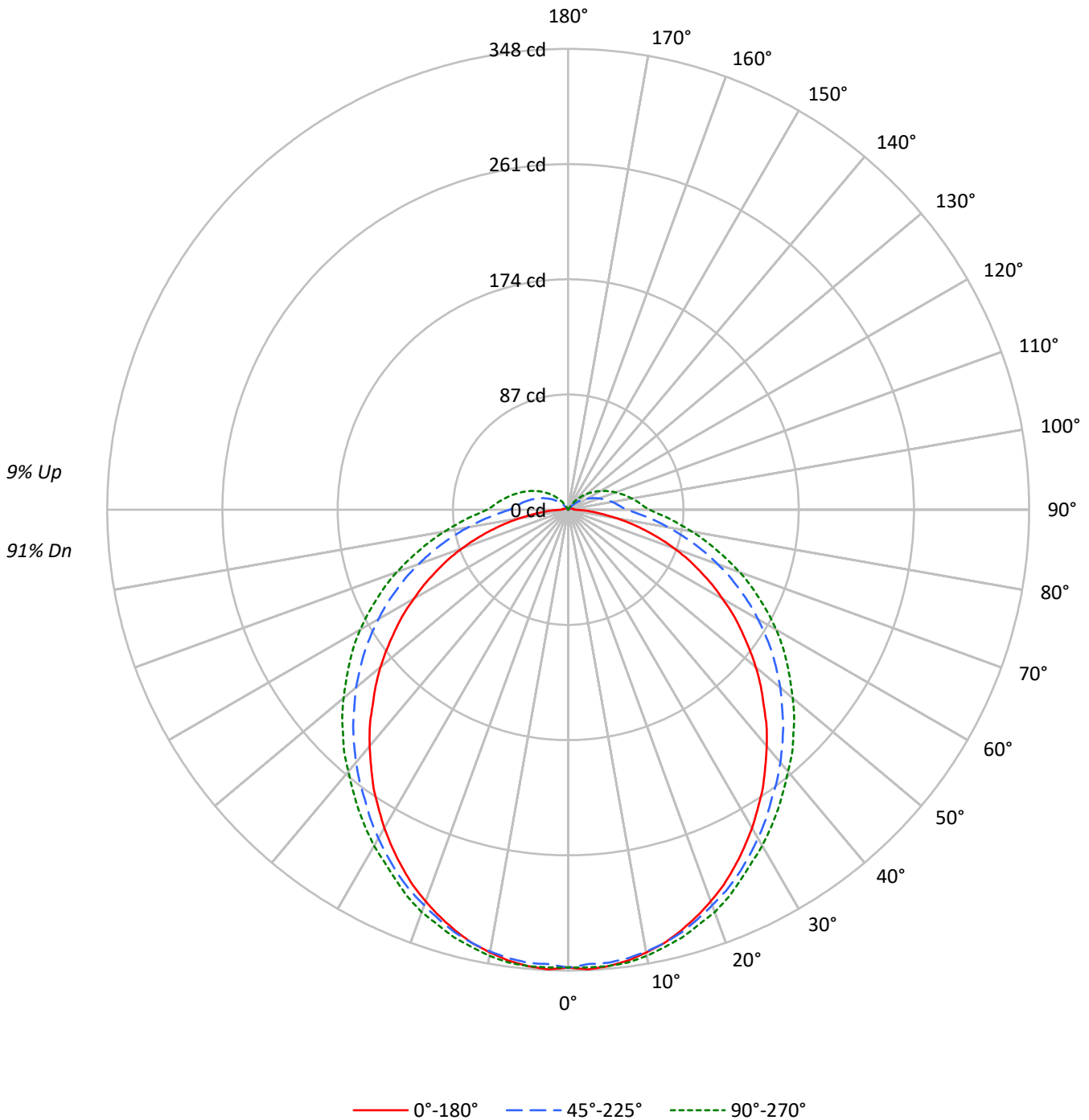
Lumens per Lamp: N/A
Luminaire Lumens: 1173.2 lumens
Efficiency: N/A
Efficacy: 104.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (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°	4190	4190	4190
5°	4202	4082	4080
10°	4163	3979	3957
15°	4106	3865	3820
20°	4028	3731	3683
25°	3938	3606	3524
30°	3836	3466	3389
35°	3736	3323	3256
40°	3625	3208	3129
45°	3502	3093	3022
50°	3400	2977	2911
55°	3274	2857	2803
60°	3141	2725	2697
65°	3005	2584	2567
70°	2848	2433	2441
75°	2610	2269	2291
80°	2308	2107	2161
85°	2054	1975	2061

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3502 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.8	2.8
10°-20°	93.6	8.0
20°-30°	140.1	11.9
30°-40°	167.7	14.3
40°-50°	175.8	15.0
50°-60°	165.3	14.1
60°-70°	138.3	11.8
70°-80°	99.3	8.5
80°-90°	59.5	5.1
90°-100°	37.7	3.2
100°-110°	27.8	2.4
110°-120°	18.6	1.6
120°-130°	10.7	0.9
130°-140°	4.9	0.4
140°-150°	1.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	266.5	22.7
0°-40°	434.2	37.0
0°-60°	775.3	66.1
0°-90°	1072.3	91.4
90°-120°	84.1	7.2
90°-150°	100.9	8.6
90°-180°	101.0	8.6
0°-180°	1173.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	346	346	346	346	346	
5°	346	346	344	346	346	33
15°	329	331	330	335	334	93
25°	297	301	304	308	308	137
35°	256	262	267	274	276	160
45°	209	219	230	238	240	161
55°	160	173	188	198	202	143
65°	110	126	143	155	159	109
75°	60	79	98	111	115	64
85°	18	38	58	72	76	19
90°	5	24	44	57	61	3
95°	4	20	38	50	54	3
105°	3	13	29	40	43	3
115°	2	6	20	30	33	2
125°	1	1	13	20	23	1
135°	1	0	5	12	14	1
145°	0	0	0	4	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°	345.7	345.7	345.7	345.7	345.7
2.5°	347.5	346.4	343.5	346.7	346.0
5°	346.0	345.7	343.5	346.4	346.0
7.5°	343.5	343.5	341.7	344.9	344.9
10°	339.5	340.6	338.8	342.4	342.1
12.5°	335.2	336.7	335.2	339.2	338.1
15°	329.1	331.2	330.5	334.8	334.1
17.5°	322.2	324.8	324.4	328.7	328.4
20°	314.7	317.9	317.9	322.2	323.3
22.5°	306.7	310.3	311.4	315.7	316.5
25°	297.4	301.3	303.9	308.5	308.2
27.5°	287.6	292.3	295.2	300.2	300.2
30°	277.5	282.9	286.6	292.0	293.0
32.5°	266.7	273.2	277.5	283.3	284.7
35°	256.3	262.4	267.4	274.3	276.1
37.5°	244.4	251.9	258.8	266.0	267.1
40°	233.2	241.5	249.1	256.6	258.1
42.5°	221.7	230.3	239.3	246.9	250.1
45°	208.7	219.1	229.6	237.5	240.4
47.5°	197.2	207.6	218.8	228.2	231.4
50°	184.9	195.7	209.1	218.1	221.3
52.5°	172.3	184.2	198.2	208.0	211.2
55°	159.7	173.0	187.8	197.9	201.5
57.5°	147.8	161.1	176.6	187.8	191.8
60°	134.4	149.2	165.4	177.0	181.3
62.5°	122.5	137.7	154.6	166.2	170.5
65°	109.6	125.8	142.7	155.4	159.3
67.5°	97.7	113.5	131.9	144.5	148.9
70°	85.1	101.6	120.0	133.0	137.7
72.5°	72.4	90.1	108.9	122.2	126.2
75°	60.2	78.6	97.7	111.0	115.3
77.5°	48.7	67.0	86.9	100.2	104.9
80°	37.1	56.2	76.8	90.1	94.8
82.5°	27.0	46.5	67.4	80.4	84.7
85°	18.4	37.5	58.4	71.7	76.4
87.5°	10.8	30.3	50.5	63.8	67.8
90°	5.0	23.8	44.0	57.3	61.3
92.5°	4.7	21.3	40.7	53.3	57.3
95°	4.0	19.5	38.2	50.5	54.4
97.5°	4.0	17.7	36.0	47.9	51.5
100°	3.6	15.9	33.9	45.1	48.7
102.5°	3.2	14.1	31.4	42.5	46.1
105°	2.9	12.6	29.2	40.0	43.3
107.5°	2.5	10.8	27.0	37.5	40.7
110°	2.5	9.4	24.9	35.0	38.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.2	7.9	22.7	32.4	35.7
115°	1.8	6.5	20.5	29.9	33.2
117.5°	1.8	5.0	18.4	27.8	30.6
120°	1.8	4.0	16.6	25.2	28.1
122.5°	1.4	2.5	14.8	23.1	26.0
125°	1.4	1.4	12.6	20.5	23.4
127.5°	1.1	0.7	10.8	18.4	20.9
130°	1.1	0.7	9.0	16.2	18.7
132.5°	0.7	0.7	7.2	14.1	16.6
135°	0.7	0.4	5.4	11.9	14.1
137.5°	0.7	0.4	3.6	9.7	11.9
140°	0.4	0.4	1.8	7.6	9.7
142.5°	0.4	0.0	0.4	5.8	7.6
145°	0.4	0.0	0.0	3.6	5.0
147.5°	0.4	0.0	0.0	1.8	3.2
150°	0.4	0.0	0.0	0.0	1.1
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	14.01	15.51	14.50	16.00	16.52	16.08	17.58	16.57	18.07	18.59
	3H	15.56	16.93	16.07	17.43	17.99	18.48	19.85	18.98	20.34	20.90
	4H	16.09	17.39	16.62	17.90	18.47	19.59	20.89	20.12	21.40	21.98
	6H	16.43	17.64	16.97	18.16	18.75	20.72	21.93	21.26	22.45	23.04
	8H	16.52	17.67	17.07	18.22	18.82	21.28	22.44	21.83	22.99	23.58
	12H	16.56	17.67	17.12	18.22	18.84	21.90	23.01	22.46	23.55	24.18
4H	2H	14.93	16.22	15.45	16.74	17.31	16.53	17.83	17.06	18.34	18.92
	3H	16.73	17.83	17.27	18.39	18.98	19.14	20.25	19.68	20.80	21.40
	4H	17.40	18.41	17.96	18.97	19.60	20.42	21.43	20.98	21.99	22.62
	6H	17.87	18.76	18.45	19.35	19.99	21.72	22.61	22.30	23.20	23.84
	8H	18.00	18.84	18.59	19.43	20.09	22.38	23.22	22.96	23.81	24.46
	12H	18.09	18.85	18.69	19.47	20.13	23.11	23.87	23.71	24.48	25.14
8H	4H	18.04	18.88	18.63	19.47	20.13	20.64	21.48	21.22	22.07	22.72
	6H	18.70	19.41	19.31	20.04	20.70	22.10	22.81	22.72	23.44	24.10
	8H	18.93	19.57	19.56	20.21	20.89	22.89	23.53	23.51	24.17	24.84
	12H	19.10	19.67	19.73	20.30	21.04	23.78	24.35	24.41	24.98	25.72
12H	4H	18.20	18.97	18.81	19.58	20.24	20.65	21.41	21.26	22.03	22.69
	6H	18.95	19.59	19.58	20.23	20.90	22.14	22.78	22.77	23.42	24.10
	8H	19.27	19.84	19.90	20.47	21.21	22.99	23.56	23.62	24.19	24.93