

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: P242510

Luminaire Tested: S123DRP-S340D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242510
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-S340D930-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

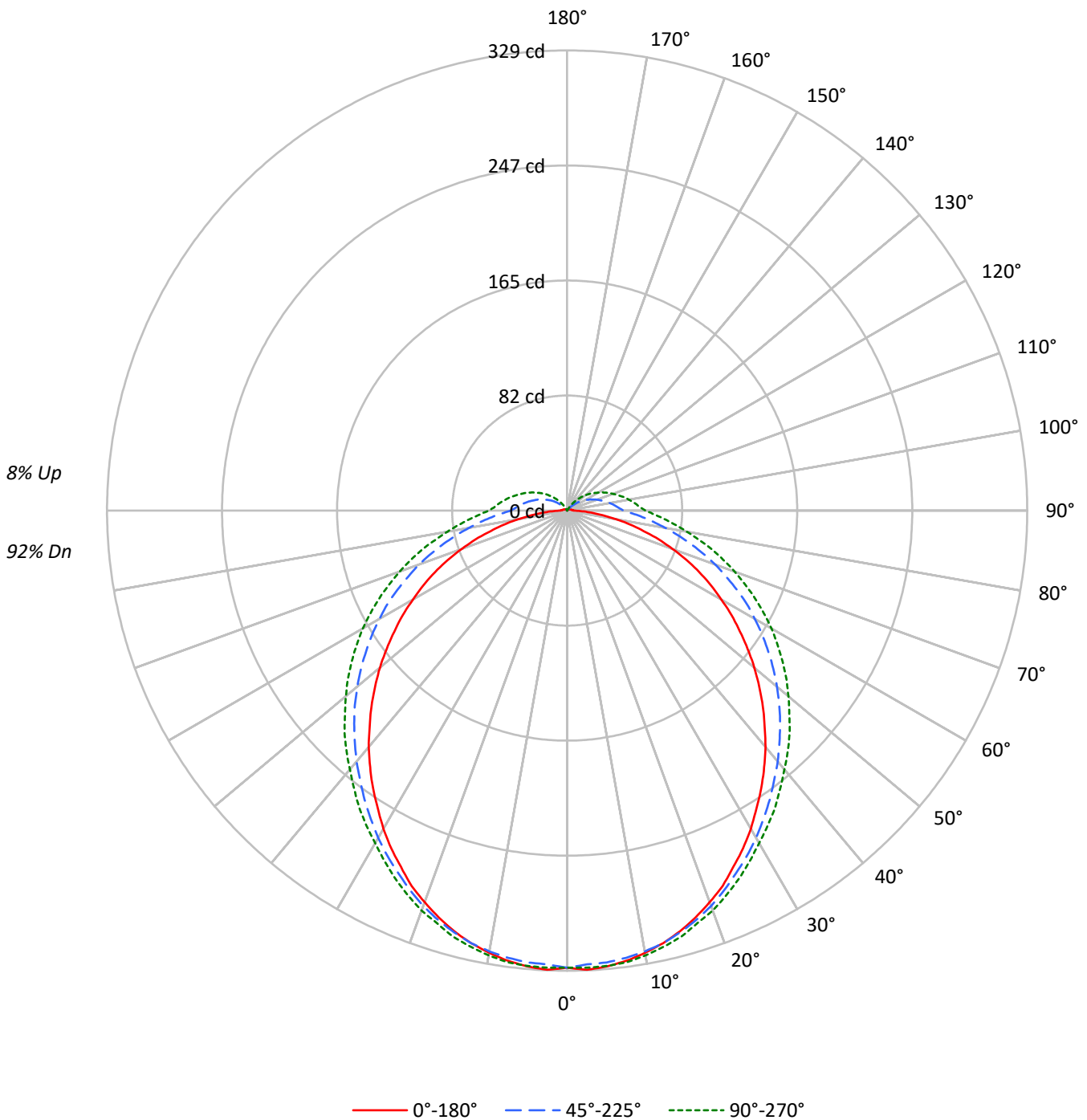
Lumens per Lamp: N/A
Luminaire Lumens: 1098.3 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 11.6
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

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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	50	30	10	0	
RCR																						
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	94	94	94	92	
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	76	76	76	73	
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	63	63	63	60	
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	52	52	52	50	
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	45	45	45	42	
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	39	39	39	36	
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	34	34	34	32	
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	35	30	30	30	30	28	
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	27	27	27	25	
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	24	24	22	
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	22	22	22	20	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3961	3961	3961
5°	3973	3854	3854
10°	3937	3758	3735
15°	3887	3651	3607
20°	3814	3530	3468
25°	3724	3393	3322
30°	3632	3268	3175
35°	3529	3137	3057
40°	3430	3016	2930
45°	3321	2902	2828
50°	3214	2788	2717
55°	3094	2670	2615
60°	2978	2552	2509
65°	2860	2423	2387
70°	2680	2281	2259
75°	2454	2116	2128
80°	2190	1953	1981
85°	1942	1829	1883

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3321 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.0	2.8
10°-20°	88.4	8.0
20°-30°	132.2	12.0
30°-40°	157.8	14.4
40°-50°	165.1	15.0
50°-60°	154.9	14.1
60°-70°	129.4	11.8
70°-80°	92.5	8.4
80°-90°	55.0	5.0
90°-100°	34.6	3.2
100°-110°	25.4	2.3
110°-120°	17.0	1.5
120°-130°	9.7	0.9
130°-140°	4.4	0.4
140°-150°	0.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	251.5	22.9
0°-40°	409.3	37.3
0°-60°	729.3	66.4
0°-90°	1006.3	91.6
90°-120°	77.0	7.0
90°-150°	92.0	8.4
90°-180°	92.0	8.4
0°-180°	1098.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	327	327	327	327	327	
5°	327	326	324	327	327	31
15°	312	312	312	316	315	88
25°	281	285	286	290	290	130
35°	242	248	252	258	259	151
45°	198	206	215	222	225	153
55°	151	163	176	185	188	135
65°	104	118	134	144	148	103
75°	57	73	91	103	107	60
85°	17	35	54	66	70	18
90°	5	22	40	52	56	3
95°	4	18	35	46	50	3
105°	3	11	27	37	40	3
115°	2	6	19	27	30	2
125°	1	1	11	19	21	1
135°	1	0	4	11	12	1
145°	0	0	0	3	4	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°	326.8	326.8	326.8	326.8	326.8
2.5°	328.6	327.5	324.7	327.5	327.1
5°	327.1	326.4	324.3	327.1	326.8
7.5°	324.7	324.7	322.5	326.1	325.7
10°	321.1	321.8	320.0	323.6	322.9
12.5°	316.8	317.9	316.8	320.0	319.3
15°	311.5	312.5	312.2	315.8	315.4
17.5°	305.1	307.2	306.9	310.1	309.3
20°	298.0	300.1	300.8	304.0	304.4
22.5°	290.5	292.6	293.7	298.0	297.6
25°	281.2	284.8	285.9	290.5	290.5
27.5°	272.3	276.2	278.4	282.3	282.6
30°	262.7	267.3	270.2	274.5	274.5
32.5°	252.0	257.4	261.3	265.9	267.0
35°	242.1	247.8	252.4	257.7	259.2
37.5°	231.4	237.8	243.1	249.2	250.3
40°	220.7	227.1	234.2	240.3	241.7
42.5°	209.0	217.1	224.6	231.4	233.5
45°	197.9	206.5	215.4	222.1	225.0
47.5°	186.2	195.8	205.8	213.2	215.4
50°	174.8	184.8	195.8	204.0	206.5
52.5°	162.7	173.4	185.8	194.4	197.6
55°	150.9	162.7	175.5	185.1	188.0
57.5°	139.5	151.6	165.5	175.1	178.3
60°	127.4	140.3	154.9	164.8	168.7
62.5°	116.0	129.2	144.9	154.9	158.4
65°	104.3	118.2	133.8	144.5	148.1
67.5°	92.6	107.1	122.8	134.6	137.4
70°	80.1	95.4	112.5	123.9	127.4
72.5°	68.7	84.0	101.8	113.6	117.1
75°	56.6	73.3	91.1	102.9	107.1
77.5°	46.3	63.0	80.8	93.3	96.5
80°	35.2	52.7	71.2	83.3	86.9
82.5°	25.6	43.4	62.3	74.4	78.0
85°	17.4	35.2	54.1	66.2	69.8
87.5°	10.7	28.5	46.6	58.7	62.3
90°	4.6	22.1	40.2	52.3	55.9
92.5°	4.3	19.6	37.4	49.1	52.3
95°	3.9	17.8	35.2	46.3	49.8
97.5°	3.6	16.4	33.1	43.8	47.3
100°	3.2	14.6	31.0	41.3	44.9
102.5°	2.8	12.8	28.8	38.8	42.4
105°	2.8	11.4	26.7	36.7	39.9
107.5°	2.5	10.0	24.6	34.2	37.4
110°	2.1	8.5	22.8	32.0	34.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.1	7.1	20.6	29.5	32.8
115°	1.8	6.1	18.9	27.4	30.3
117.5°	1.8	4.6	16.7	25.3	28.1
120°	1.4	3.2	15.0	23.1	25.6
122.5°	1.4	2.1	13.2	21.0	23.5
125°	1.1	1.1	11.4	18.9	21.4
127.5°	1.1	0.7	9.6	16.7	19.2
130°	1.1	0.7	7.8	14.6	16.7
132.5°	0.7	0.7	6.1	12.5	15.0
135°	0.7	0.4	4.3	10.7	12.5
137.5°	0.7	0.4	2.8	8.5	10.3
140°	0.4	0.4	1.4	6.8	8.5
142.5°	0.4	0.0	0.0	4.6	6.4
145°	0.4	0.0	0.0	2.8	4.3
147.5°	0.0	0.0	0.0	1.1	2.5
150°	0.0	0.0	0.0	0.0	0.7
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	13.83	15.34	14.32	15.82	16.33	15.83	17.33	16.32	17.82	18.33
	3H	15.39	16.76	15.89	17.25	17.81	18.21	19.58	18.71	20.07	20.63
	4H	15.91	17.21	16.43	17.72	18.29	19.32	20.62	19.84	21.13	21.70
	6H	16.26	17.47	16.79	17.99	18.57	20.43	21.64	20.97	22.16	22.75
	8H	16.34	17.50	16.89	18.05	18.64	20.99	22.15	21.53	22.69	23.28
	12H	16.39	17.50	16.95	18.04	18.66	21.59	22.70	22.15	23.24	23.86
4H	2H	14.74	16.04	15.26	16.55	17.12	16.29	17.59	16.81	18.10	18.67
	3H	16.54	17.65	17.08	18.20	18.79	18.88	19.99	19.42	20.54	21.13
	4H	17.21	18.22	17.76	18.78	19.40	20.15	21.16	20.71	21.72	22.35
	6H	17.68	18.57	18.26	19.16	19.80	21.44	22.33	22.01	22.91	23.55
	8H	17.82	18.66	18.40	19.24	19.89	22.09	22.93	22.67	23.51	24.16
	12H	17.90	18.66	18.50	19.28	19.93	22.80	23.57	23.41	24.18	24.83
8H	4H	17.84	18.68	18.42	19.27	19.92	20.38	21.22	20.96	21.80	22.45
	6H	18.50	19.21	19.11	19.83	20.49	21.82	22.53	22.43	23.16	23.81
	8H	18.73	19.37	19.35	20.01	20.68	22.60	23.24	23.22	23.87	24.54
	12H	18.90	19.47	19.53	20.10	20.83	23.48	24.05	24.10	24.67	25.41
12H	4H	18.00	18.76	18.60	19.37	20.03	20.39	21.15	20.99	21.76	22.42
	6H	18.74	19.38	19.36	20.02	20.69	21.86	22.50	22.48	23.14	23.81
	8H	19.06	19.63	19.69	20.26	20.99	22.70	23.27	23.33	23.90	24.63