

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: P243373

Luminaire Tested: S123DRP-H1000D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243373
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-H1000D930-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

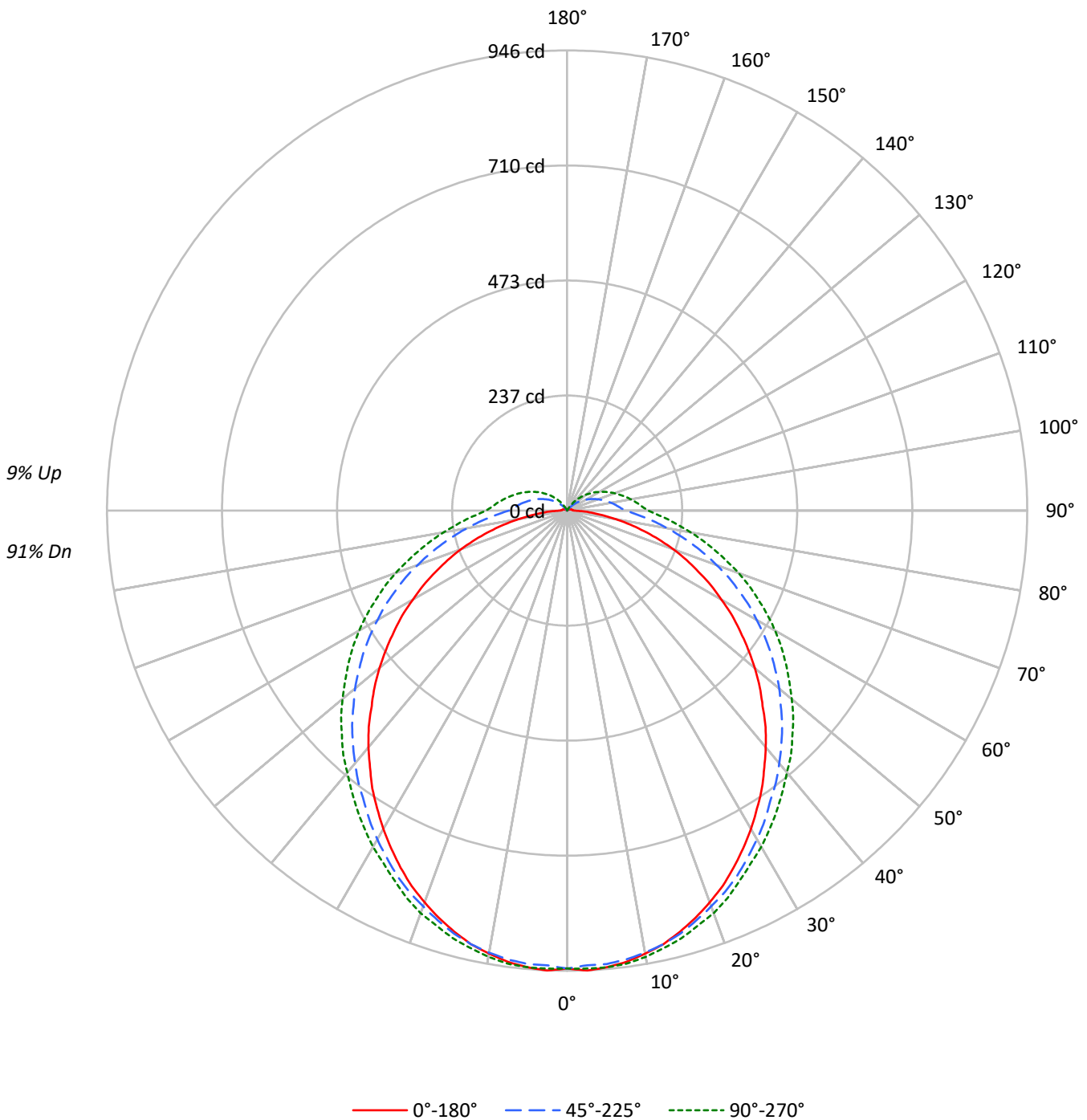
Lumens per Lamp: N/A
Luminaire Lumens: 3195.4 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11412	11412	11412
5°	11445	11119	11113
10°	11340	10838	10775
15°	11183	10528	10406
20°	10969	10162	10031
25°	10724	9821	9599
30°	10450	9440	9232
35°	10175	9052	8869
40°	9873	8738	8522
45°	9538	8425	8231
50°	9259	8106	7931
55°	8917	7783	7634
60°	8559	7423	7345
65°	8181	7040	6992
70°	7753	6627	6648
75°	7106	6178	6241
80°	6290	5736	5886
85°	5593	5377	5613

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9538 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.4	2.8
10°-20°	254.8	8.0
20°-30°	381.6	11.9
30°-40°	456.7	14.3
40°-50°	478.9	15.0
50°-60°	450.2	14.1
60°-70°	376.7	11.8
70°-80°	270.4	8.5
80°-90°	162.0	5.1
90°-100°	102.7	3.2
100°-110°	75.7	2.4
110°-120°	50.6	1.6
120°-130°	29.2	0.9
130°-140°	13.5	0.4
140°-150°	3.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	725.9	22.7
0°-40°	1182.5	37.0
0°-60°	2111.6	66.1
0°-90°	2920.6	91.4
90°-120°	229.0	7.2
90°-150°	274.8	8.6
90°-180°	275.0	8.6
0°-180°	3195.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	942	942	942	942	942	
5°	942	942	936	943	942	89
15°	896	902	900	912	910	253
25°	810	821	828	840	839	373
35°	698	715	728	747	752	436
45°	568	597	625	647	655	440
55°	435	471	512	539	549	389
65°	298	343	389	423	434	296
75°	164	214	266	302	314	174
85°	50	102	159	195	208	51
90°	14	65	120	156	167	10
95°	11	53	104	137	148	9
105°	8	34	80	109	118	8
115°	5	18	56	82	90	5
125°	4	4	34	56	64	3
135°	2	1	15	32	38	2
145°	1	0	0	10	14	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°	941.5	941.5	941.5	941.5	941.5
2.5°	946.4	943.4	935.6	944.4	942.4
5°	942.4	941.5	935.6	943.4	942.4
7.5°	935.6	935.6	930.7	939.5	939.5
10°	924.8	927.7	922.8	932.6	931.6
12.5°	913.0	916.9	913.0	923.8	920.8
15°	896.3	902.2	900.2	912.0	910.0
17.5°	877.6	884.5	883.5	895.3	894.3
20°	857.0	865.9	865.9	877.6	880.6
22.5°	835.4	845.2	848.2	860.0	861.9
25°	809.9	820.7	827.6	840.3	839.4
27.5°	783.4	796.2	804.0	817.8	817.8
30°	755.9	770.6	780.5	795.2	798.1
32.5°	726.5	744.1	755.9	771.6	775.5
35°	698.0	714.7	728.4	747.1	752.0
37.5°	665.6	686.2	704.9	724.5	727.4
40°	635.2	657.7	678.4	699.0	702.9
42.5°	603.7	627.3	651.8	672.5	681.3
45°	568.4	596.9	625.3	646.9	654.8
47.5°	537.0	565.5	595.9	621.4	630.3
50°	503.6	533.1	569.4	593.9	602.8
52.5°	469.3	501.6	539.9	566.4	575.3
55°	434.9	471.2	511.5	539.0	548.8
57.5°	402.5	438.8	481.0	511.5	522.3
60°	366.2	406.4	450.6	482.0	493.8
62.5°	333.8	375.0	421.1	452.6	464.3
65°	298.4	342.6	388.8	423.1	433.9
67.5°	266.0	309.2	359.3	393.7	405.4
70°	231.7	276.8	326.9	362.2	375.0
72.5°	197.3	245.4	296.5	332.8	343.6
75°	163.9	214.0	266.0	302.4	314.1
77.5°	132.5	182.6	236.6	272.9	285.7
80°	101.1	153.1	209.1	245.4	258.2
82.5°	73.6	126.6	183.6	218.9	230.7
85°	50.1	102.1	159.0	195.4	208.1
87.5°	29.5	82.5	137.4	173.8	184.6
90°	13.7	64.8	119.8	156.1	166.9
92.5°	12.8	57.9	110.9	145.3	156.1
95°	10.8	53.0	104.1	137.4	148.2
97.5°	10.8	48.1	98.2	130.6	140.4
100°	9.8	43.2	92.3	122.7	132.5
102.5°	8.8	38.3	85.4	115.8	125.7
105°	7.9	34.4	79.5	109.0	117.8
107.5°	6.9	29.5	73.6	102.1	110.9
110°	6.9	25.5	67.7	95.2	104.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.9	21.6	61.8	88.4	97.2
115°	4.9	17.7	56.0	81.5	90.3
117.5°	4.9	13.7	50.1	75.6	83.4
120°	4.9	10.8	45.2	68.7	76.6
122.5°	3.9	6.9	40.2	62.8	70.7
125°	3.9	3.9	34.4	56.0	63.8
127.5°	2.9	2.0	29.5	50.1	56.9
130°	2.9	2.0	24.5	44.2	51.0
132.5°	2.0	2.0	19.6	38.3	45.2
135°	2.0	1.0	14.7	32.4	38.3
137.5°	2.0	1.0	9.8	26.5	32.4
140°	1.0	1.0	4.9	20.6	26.5
142.5°	1.0	0.0	1.0	15.7	20.6
145°	1.0	0.0	0.0	9.8	13.7
147.5°	1.0	0.0	0.0	4.9	8.8
150°	1.0	0.0	0.0	0.0	2.9
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	17.49	19.00	17.99	19.48	20.00	19.56	21.06	20.06	21.55	22.07
	3H	19.05	20.42	19.55	20.91	21.47	21.96	23.33	22.46	23.82	24.38
	4H	19.57	20.87	20.10	21.38	21.96	23.07	24.37	23.60	24.88	25.46
	6H	19.91	21.12	20.45	21.64	22.23	24.20	25.41	24.74	25.93	26.52
	8H	20.00	21.16	20.55	21.70	22.30	24.76	25.92	25.31	26.47	27.06
	12H	20.05	21.16	20.60	21.70	22.32	25.38	26.49	25.94	27.03	27.66
4H	2H	18.41	19.71	18.94	20.22	20.79	20.01	21.31	20.54	21.82	22.40
	3H	20.21	21.32	20.75	21.87	22.47	22.62	23.73	23.16	24.28	24.88
	4H	20.88	21.89	21.44	22.45	23.08	23.90	24.91	24.46	25.47	26.10
	6H	21.35	22.24	21.93	22.83	23.47	25.20	26.09	25.78	26.68	27.32
	8H	21.48	22.32	22.07	22.91	23.57	25.86	26.70	26.44	27.29	27.94
	12H	21.57	22.33	22.18	22.95	23.61	26.59	27.35	27.19	27.97	28.63
8H	4H	21.52	22.36	22.11	22.95	23.61	24.12	24.96	24.71	25.55	26.20
	6H	22.18	22.89	22.80	23.52	24.18	25.58	26.29	26.20	26.92	27.58
	8H	22.41	23.05	23.04	23.69	24.37	26.37	27.01	26.99	27.65	28.32
	12H	22.58	23.16	23.21	23.78	24.52	27.26	27.83	27.89	28.46	29.20
12H	4H	21.68	22.45	22.29	23.06	23.72	24.13	24.89	24.74	25.51	26.17
	6H	22.43	23.07	23.06	23.71	24.38	25.62	26.26	26.25	26.90	27.58
	8H	22.75	23.33	23.38	23.95	24.69	26.47	27.04	27.10	27.67	28.41