

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: P242346

Luminaire Tested: S122DRP-S865D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242346
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S865D935-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

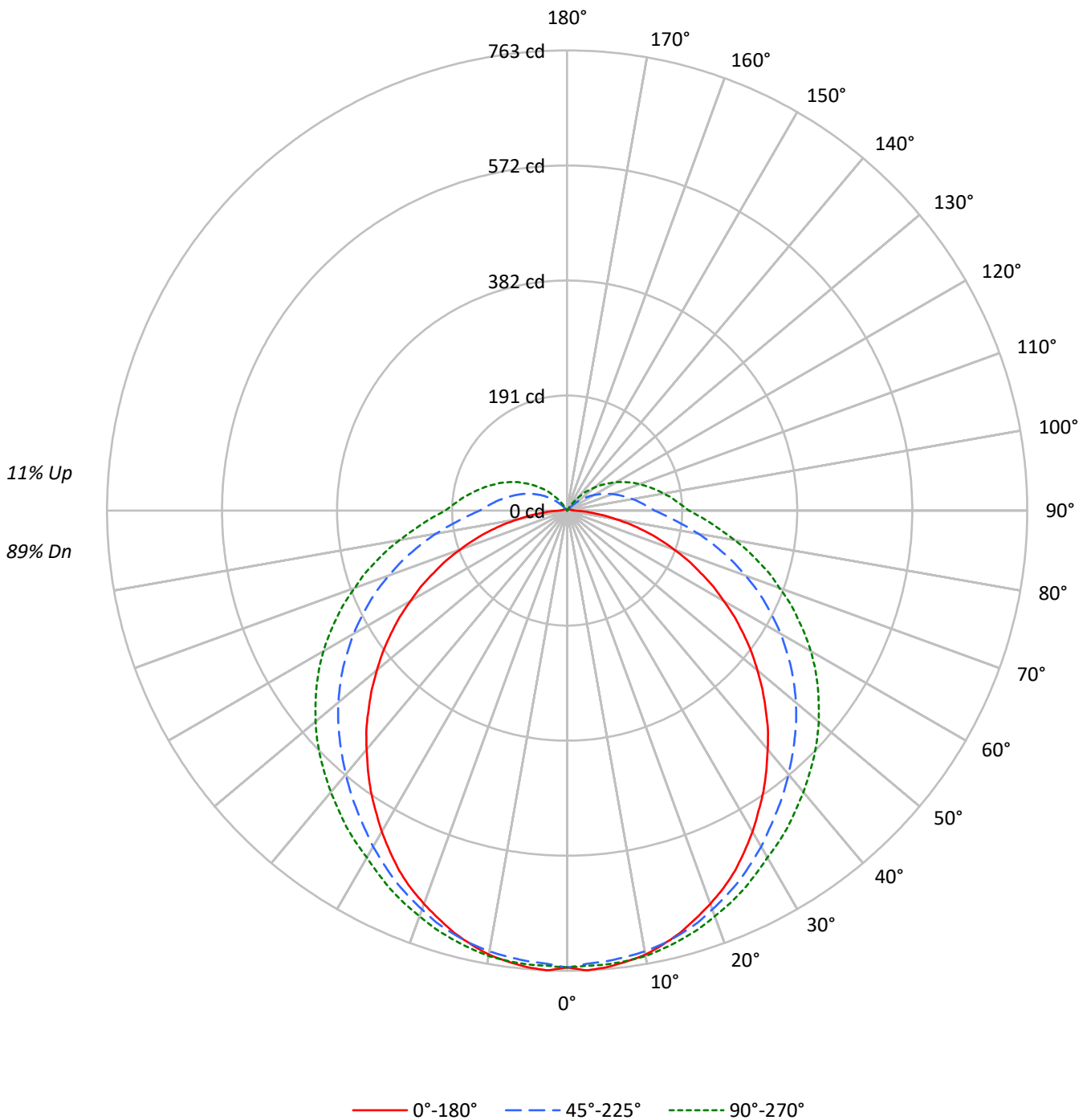
Lumens per Lamp: N/A
Luminaire Lumens: 2890.8 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	85	81	82	79	77	77	75	72	69
2	94	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	42	39
5	71	57	48	41	68	56	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14431	14431	14431
5°	14500	13831	13756
10°	14407	13367	13177
15°	14209	12887	12581
20°	13956	12377	12013
25°	13708	11891	11497
30°	13359	11393	10986
35°	13005	10915	10613
40°	12632	10503	10242
45°	12275	10128	9919
50°	11895	9785	9600
55°	11496	9420	9277
60°	11011	9037	8934
65°	10504	8598	8539
70°	9933	8126	8113
75°	9204	7656	7713
80°	8046	7167	7300
85°	6929	6713	6947

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12275 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.8	2.5
10°-20°	206.0	7.1
20°-30°	312.1	10.8
30°-40°	380.1	13.1
40°-50°	408.9	14.1
50°-60°	397.1	13.7
60°-70°	346.8	12.0
70°-80°	266.9	9.2
80°-90°	178.8	6.2
90°-100°	123.3	4.3
100°-110°	90.1	3.1
110°-120°	59.5	2.1
120°-130°	33.1	1.1
130°-140°	13.9	0.5
140°-150°	2.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	589.9	20.4
0°-40°	970.0	33.6
0°-60°	1776.0	61.4
0°-90°	2568.5	88.9
90°-120°	272.9	9.4
90°-150°	322.3	11.1
90°-180°	322.0	11.1
0°-180°	2890.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	758	758	758	758	758	
5°	760	756	750	756	755	72
15°	725	727	727	737	736	204
25°	659	666	676	690	693	303
35°	568	586	607	631	639	355
45°	466	495	534	568	579	359
55°	357	396	454	493	507	319
65°	244	298	362	407	422	242
75°	135	196	267	314	328	143
85°	40	108	178	224	239	42
90°	11	75	145	189	202	8
95°	9	60	126	168	181	7
105°	6	37	94	133	145	6
115°	4	16	66	99	111	4
125°	2	2	37	67	77	2
135°	1	1	12	35	44	1
145°	0	0	0	7	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°	757.6	757.6	757.6	757.6	757.6
2.5°	763.1	759.8	752.1	757.6	755.4
5°	759.8	756.5	749.9	756.5	755.4
7.5°	754.3	752.1	746.6	754.3	753.2
10°	747.7	745.5	742.2	751.0	749.9
12.5°	736.7	737.8	735.7	744.4	743.3
15°	724.7	726.9	726.9	736.7	735.7
17.5°	709.3	713.7	717.0	726.9	726.9
20°	693.9	699.4	703.8	715.9	715.9
22.5°	677.5	684.0	690.6	702.7	704.9
25°	658.8	666.5	676.4	689.5	692.8
27.5°	636.8	648.9	659.9	676.4	678.6
30°	614.9	629.1	643.4	661.0	664.3
32.5°	590.7	607.2	624.8	645.6	652.2
35°	567.7	586.3	607.2	631.3	639.0
37.5°	542.4	563.3	589.6	616.0	623.7
40°	517.2	541.3	571.0	599.5	609.4
42.5°	493.0	517.2	552.3	584.1	594.0
45°	465.5	495.2	533.6	567.7	578.6
47.5°	439.2	471.0	515.0	550.1	562.2
50°	411.7	445.8	495.2	532.5	544.6
52.5°	385.4	421.6	474.3	512.8	525.9
55°	356.8	396.4	453.5	493.0	507.3
57.5°	329.4	373.3	430.4	473.2	487.5
60°	299.8	347.0	409.5	451.3	466.6
62.5°	273.4	322.8	385.4	430.4	444.7
65°	243.8	297.6	362.3	407.4	421.6
67.5°	217.4	273.4	339.3	384.3	399.7
70°	188.9	245.9	314.0	361.2	374.4
72.5°	162.5	221.8	291.0	337.1	353.6
75°	135.1	196.5	266.8	314.0	328.3
77.5°	108.7	172.4	243.8	291.0	306.3
80°	82.3	149.3	220.7	266.8	282.2
82.5°	60.4	126.3	198.7	244.9	259.1
85°	39.5	107.6	177.9	224.0	239.4
87.5°	24.2	90.0	160.3	205.3	219.6
90°	11.0	74.7	144.9	188.9	202.0
92.5°	9.9	68.1	135.1	177.9	191.0
95°	8.8	60.4	126.3	168.0	181.2
97.5°	7.7	54.9	118.6	159.2	172.4
100°	7.7	48.3	109.8	150.4	162.5
102.5°	6.6	42.8	102.1	141.6	153.7
105°	5.5	37.3	94.4	132.9	144.9
107.5°	5.5	31.8	86.7	124.1	136.2
110°	4.4	26.4	80.2	115.3	127.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.4	22.0	72.5	107.6	119.7
115°	4.4	16.5	65.9	98.8	110.9
117.5°	3.3	12.1	58.2	91.1	102.1
120°	3.3	7.7	51.6	82.3	94.4
122.5°	3.3	4.4	45.0	74.7	84.5
125°	2.2	2.2	37.3	67.0	76.9
127.5°	2.2	1.1	30.7	58.2	68.1
130°	2.2	1.1	24.2	50.5	59.3
132.5°	2.2	1.1	17.6	42.8	51.6
135°	1.1	1.1	12.1	35.1	43.9
137.5°	1.1	1.1	6.6	27.4	35.1
140°	1.1	0.0	2.2	19.8	26.4
142.5°	1.1	0.0	0.0	13.2	18.7
145°	0.0	0.0	0.0	6.6	12.1
147.5°	0.0	0.0	0.0	1.1	4.4
150°	0.0	0.0	0.0	0.0	0.0
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	17.49	18.97	18.02	19.50	20.08	20.56	22.04	21.08	22.56	23.14
	3H	18.99	20.35	19.53	20.89	21.50	23.18	24.54	23.72	25.07	25.69
	4H	19.49	20.78	20.05	21.33	21.96	24.46	25.75	25.02	26.30	26.93
	6H	19.81	21.01	20.38	21.57	22.22	25.80	26.99	26.37	27.56	28.20
	8H	19.89	21.04	20.47	21.62	22.27	26.48	27.63	27.06	28.21	28.86
	12H	19.92	21.03	20.51	21.61	22.29	27.23	28.33	27.82	28.92	29.60
4H	2H	18.60	19.89	19.16	20.44	21.07	20.95	22.23	21.51	22.78	23.41
	3H	20.36	21.46	20.93	22.05	22.71	23.79	24.89	24.36	25.48	26.13
	4H	21.01	22.02	21.60	22.62	23.30	25.23	26.24	25.82	26.84	27.52
	6H	21.46	22.35	22.07	22.98	23.67	26.74	27.63	27.35	28.26	28.95
	8H	21.58	22.43	22.20	23.05	23.76	27.51	28.36	28.13	28.98	29.69
	12H	21.66	22.43	22.29	23.08	23.79	28.38	29.15	29.02	29.80	30.51
8H	4H	21.85	22.69	22.46	23.32	24.02	25.42	26.27	26.04	26.89	27.60
	6H	22.51	23.23	23.15	23.89	24.60	27.08	27.80	27.73	28.47	29.18
	8H	22.74	23.39	23.40	24.06	24.79	27.99	28.64	28.65	29.31	30.03
	12H	22.91	23.48	23.57	24.15	24.93	29.02	29.60	29.68	30.27	31.05
12H	4H	22.08	22.85	22.72	23.50	24.21	25.43	26.20	26.07	26.85	27.56
	6H	22.85	23.50	23.51	24.18	24.90	27.12	27.77	27.78	28.44	29.16
	8H	23.19	23.77	23.85	24.43	25.22	28.08	28.66	28.74	29.33	30.11