

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: P242344

Luminaire Tested: S122DRP-S485D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242344
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-S485D935-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

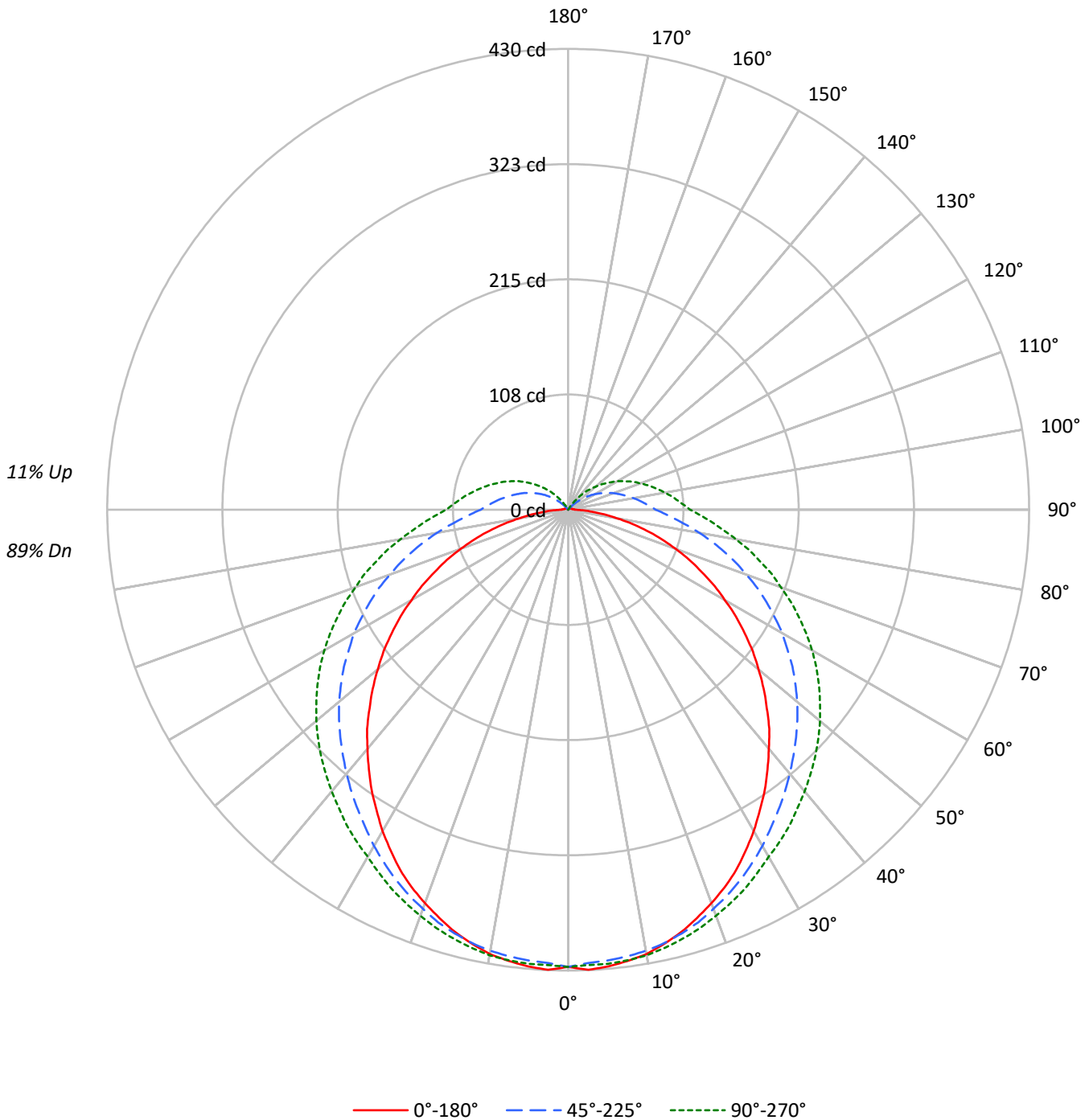
Lumens per Lamp: N/A
Luminaire Lumens: 1627.6 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 18.8
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				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	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°	8126	8126	8126
5°	8164	7787	7745
10°	8112	7526	7419
15°	8000	7256	7083
20°	7858	6970	6764
25°	7718	6694	6474
30°	7521	6416	6185
35°	7321	6146	5976
40°	7112	5914	5766
45°	6912	5704	5585
50°	6697	5509	5405
55°	6473	5303	5223
60°	6200	5089	5030
65°	5911	4841	4808
70°	5590	4576	4568
75°	5178	4310	4342
80°	4536	4037	4110
85°	3912	3781	3912

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6912 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	2.5
10°-20°	116.0	7.1
20°-30°	175.7	10.8
30°-40°	214.0	13.1
40°-50°	230.2	14.1
50°-60°	223.6	13.7
60°-70°	195.3	12.0
70°-80°	150.3	9.2
80°-90°	100.7	6.2
90°-100°	69.4	4.3
100°-110°	50.7	3.1
110°-120°	33.5	2.1
120°-130°	18.6	1.1
130°-140°	7.8	0.5
140°-150°	1.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	332.2	20.4
0°-40°	546.2	33.6
0°-60°	1000.0	61.4
0°-90°	1446.2	88.9
90°-120°	153.6	9.4
90°-150°	181.4	11.1
90°-180°	181.0	11.1
0°-180°	1627.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	428	426	422	426	425	41
15°	408	409	409	415	414	115
25°	371	375	381	388	390	171
35°	320	330	342	356	360	200
45°	262	279	300	320	326	202
55°	201	223	255	278	286	180
65°	137	168	204	229	237	136
75°	76	111	150	177	185	80
85°	22	61	100	126	135	23
90°	6	42	82	106	114	4
95°	5	34	71	95	102	4
105°	3	21	53	75	82	4
115°	2	9	37	56	62	2
125°	1	1	21	38	43	1
135°	1	1	7	20	25	1
145°	0	0	0	4	7	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°	426.6	426.6	426.6	426.6	426.6
2.5°	429.7	427.8	423.5	426.6	425.3
5°	427.8	426.0	422.2	426.0	425.3
7.5°	424.7	423.5	420.4	424.7	424.1
10°	421.0	419.8	417.9	422.9	422.2
12.5°	414.8	415.4	414.2	419.2	418.5
15°	408.0	409.3	409.3	414.8	414.2
17.5°	399.4	401.8	403.7	409.3	409.3
20°	390.7	393.8	396.3	403.1	403.1
22.5°	381.4	385.2	388.9	395.7	396.9
25°	370.9	375.3	380.8	388.2	390.1
27.5°	358.6	365.4	371.6	380.8	382.1
30°	346.2	354.2	362.3	372.2	374.0
32.5°	332.6	341.9	351.8	363.5	367.2
35°	319.6	330.1	341.9	355.5	359.8
37.5°	305.4	317.1	332.0	346.8	351.1
40°	291.2	304.8	321.5	337.5	343.1
42.5°	277.6	291.2	311.0	328.9	334.5
45°	262.1	278.8	300.5	319.6	325.8
47.5°	247.3	265.2	289.9	309.7	316.5
50°	231.8	251.0	278.8	299.8	306.6
52.5°	217.0	237.4	267.1	288.7	296.1
55°	200.9	223.2	255.3	277.6	285.6
57.5°	185.5	210.2	242.3	266.5	274.5
60°	168.8	195.4	230.6	254.1	262.7
62.5°	153.9	181.8	217.0	242.3	250.4
65°	137.2	167.5	204.0	229.4	237.4
67.5°	122.4	153.9	191.0	216.4	225.0
70°	106.3	138.5	176.8	203.4	210.8
72.5°	91.5	124.9	163.8	189.8	199.1
75°	76.0	110.7	150.2	176.8	184.8
77.5°	61.2	97.1	137.2	163.8	172.5
80°	46.4	84.1	124.3	150.2	158.9
82.5°	34.0	71.1	111.9	137.9	145.9
85°	22.3	60.6	100.2	126.1	134.8
87.5°	13.6	50.7	90.3	115.6	123.6
90°	6.2	42.0	81.6	106.3	113.8
92.5°	5.6	38.3	76.0	100.2	107.6
95°	4.9	34.0	71.1	94.6	102.0
97.5°	4.3	30.9	66.8	89.6	97.1
100°	4.3	27.2	61.8	84.7	91.5
102.5°	3.7	24.1	57.5	79.8	86.6
105°	3.1	21.0	53.2	74.8	81.6
107.5°	3.1	17.9	48.8	69.9	76.7
110°	2.5	14.8	45.1	64.9	71.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	12.4	40.8	60.6	67.4
115°	2.5	9.3	37.1	55.6	62.4
117.5°	1.9	6.8	32.8	51.3	57.5
120°	1.9	4.3	29.1	46.4	53.2
122.5°	1.9	2.5	25.3	42.0	47.6
125°	1.2	1.2	21.0	37.7	43.3
127.5°	1.2	0.6	17.3	32.8	38.3
130°	1.2	0.6	13.6	28.4	33.4
132.5°	1.2	0.6	9.9	24.1	29.1
135°	0.6	0.6	6.8	19.8	24.7
137.5°	0.6	0.6	3.7	15.5	19.8
140°	0.6	0.0	1.2	11.1	14.8
142.5°	0.6	0.0	0.0	7.4	10.5
145°	0.0	0.0	0.0	3.7	6.8
147.5°	0.0	0.0	0.0	0.6	2.5
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	15.50	16.98	16.03	17.51	18.09	18.56	20.04	19.09	20.57	21.15
	3H	17.00	18.35	17.54	18.89	19.51	21.19	22.54	21.73	23.08	23.70
	4H	17.50	18.79	18.06	19.34	19.97	22.47	23.75	23.03	24.31	24.94
	6H	17.81	19.01	18.39	19.58	20.22	23.80	25.00	24.37	25.56	26.21
	8H	17.89	19.04	18.47	19.63	20.28	24.48	25.63	25.06	26.22	26.87
	12H	17.93	19.03	18.52	19.61	20.29	25.24	26.34	25.83	26.92	27.60
4H	2H	16.61	17.90	17.17	18.45	19.08	18.95	20.24	19.51	20.79	21.42
	3H	18.37	19.47	18.94	20.06	20.71	21.79	22.89	22.36	23.49	24.14
	4H	19.01	20.02	19.60	20.62	21.31	23.23	24.24	23.82	24.85	25.53
	6H	19.46	20.36	20.07	20.98	21.68	24.74	25.64	25.35	26.26	26.95
	8H	19.59	20.43	20.20	21.06	21.76	25.52	26.36	26.13	26.99	27.69
	12H	19.66	20.43	20.30	21.08	21.79	26.39	27.16	27.02	27.81	28.52
8H	4H	19.85	20.70	20.47	21.32	22.03	23.43	24.27	24.04	24.90	25.60
	6H	20.51	21.23	21.16	21.90	22.61	25.09	25.81	25.73	26.47	27.18
	8H	20.75	21.39	21.40	22.07	22.79	25.99	26.64	26.65	27.32	28.04
	12H	20.91	21.49	21.57	22.15	22.94	27.03	27.61	27.69	28.27	29.06
12H	4H	20.08	20.85	20.72	21.50	22.21	23.43	24.20	24.07	24.85	25.56
	6H	20.86	21.51	21.51	22.18	22.90	25.12	25.77	25.78	26.44	27.17
	8H	21.19	21.77	21.85	22.44	23.22	26.09	26.67	26.75	27.33	28.12