

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: P242449

Luminaire Tested: S123DRP-S1000D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242449
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-11)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S1000D935-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

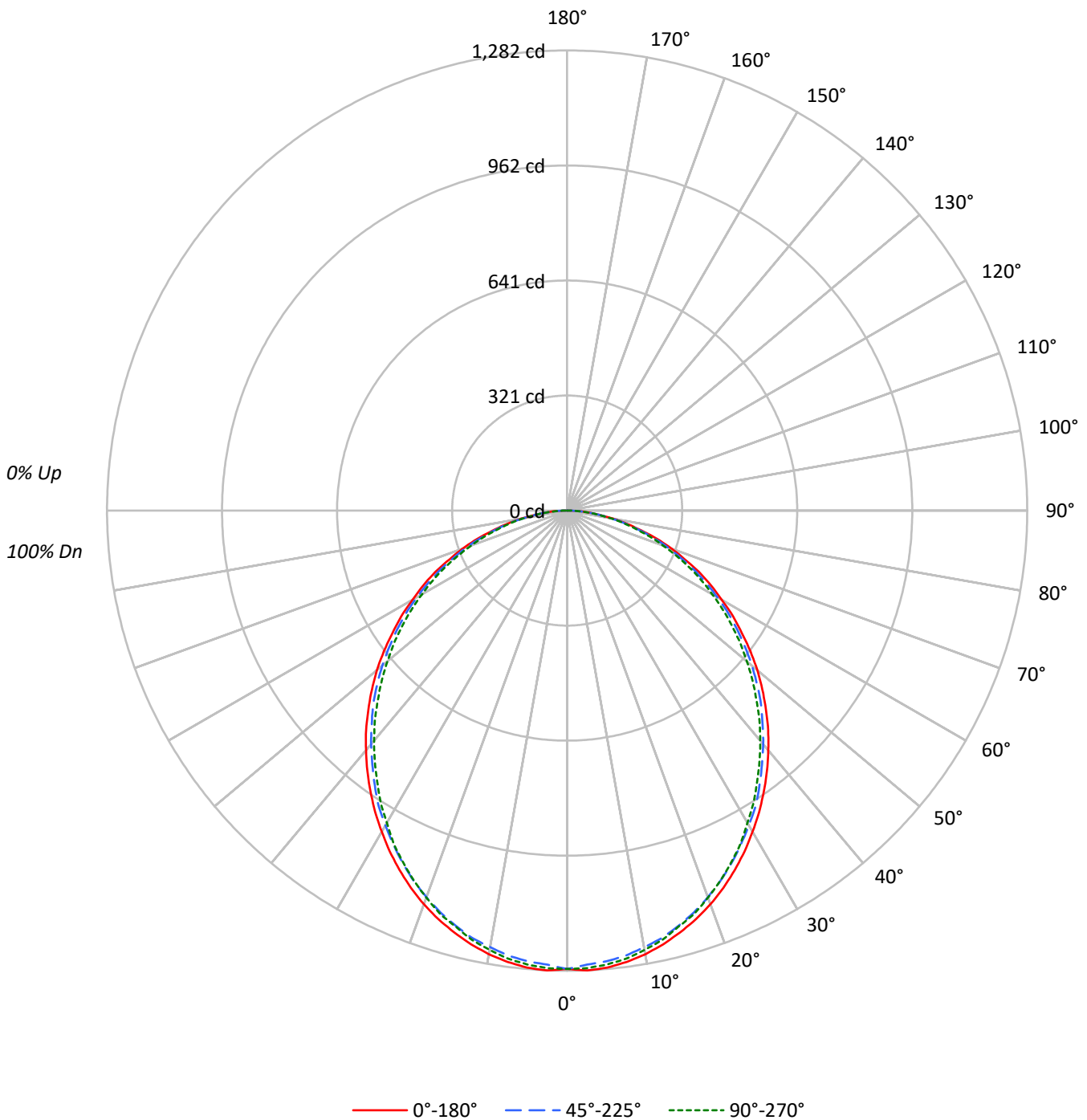
Lumens per Lamp: N/A
Luminaire Lumens: 3323.4 lumens
Efficiency: N/A
Efficacy: 95.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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	
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15479	15479	15479
5°	15551	15337	15444
10°	15447	15203	15298
15°	15267	15032	15060
20°	15056	14786	14800
25°	14773	14494	14464
30°	14461	14169	14062
35°	14134	13827	13648
40°	13795	13446	13239
45°	13420	13100	12779
50°	13044	12672	12319
55°	12553	12227	11858
60°	12058	11712	11338
65°	11622	11148	10801
70°	10972	10508	10040
75°	10027	9666	9254
80°	9047	8663	8586
85°	7941	7635	7329

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13420 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	3.6
10°-20°	339.9	10.2
20°-30°	502.0	15.1
30°-40°	586.3	17.6
40°-50°	589.4	17.7
50°-60°	517.8	15.6
60°-70°	385.6	11.6
70°-80°	219.5	6.6
80°-90°	62.4	1.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	962.3	29.0
0°-40°	1548.7	46.6
0°-60°	2655.9	79.9
0°-90°	3323.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3323.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1277	1277	1277	1277	1277	
5°	1278	1273	1260	1272	1269	121
15°	1217	1212	1198	1207	1200	343
25°	1105	1098	1084	1085	1082	509
35°	955	949	934	928	922	598
45°	783	778	764	751	746	604
55°	594	593	579	567	561	532
65°	405	400	389	380	377	400
75°	214	210	206	201	198	229
85°	57	55	55	53	53	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1277.0	1277.0	1277.0	1277.0	1277.0
2.5°	1282.4	1278.1	1266.0	1277.0	1275.9
5°	1278.1	1272.6	1260.5	1271.5	1269.3
7.5°	1268.2	1262.7	1250.6	1260.5	1259.4
10°	1255.0	1249.5	1235.2	1245.1	1242.9
12.5°	1237.4	1233.0	1219.9	1226.5	1225.4
15°	1216.6	1212.2	1197.9	1206.7	1200.1
17.5°	1193.5	1188.0	1173.7	1180.3	1178.1
20°	1167.2	1160.6	1146.3	1150.7	1147.4
22.5°	1137.5	1130.9	1116.7	1119.9	1115.6
25°	1104.6	1098.0	1083.7	1084.8	1081.5
27.5°	1070.5	1063.9	1048.6	1049.7	1046.4
30°	1033.2	1027.7	1012.3	1012.3	1004.7
32.5°	995.9	988.2	977.2	969.5	966.2
35°	955.2	948.7	934.4	927.8	922.3
37.5°	914.6	905.8	891.6	883.9	880.6
40°	871.8	865.2	849.8	841.1	836.7
42.5°	829.0	821.3	805.9	797.1	792.7
45°	782.9	778.5	764.2	751.0	745.5
47.5°	737.8	731.3	718.1	704.9	700.5
50°	691.7	686.2	672.0	659.9	653.3
52.5°	643.4	640.1	624.8	614.9	608.3
55°	594.0	592.9	578.6	566.6	561.1
57.5°	547.9	543.5	532.5	521.5	515.0
60°	497.4	496.3	483.1	473.2	467.7
62.5°	452.4	449.1	435.9	426.0	422.7
65°	405.2	399.7	388.7	379.9	376.6
67.5°	354.6	350.3	341.5	333.8	329.4
70°	309.6	303.0	296.5	288.8	283.3
72.5°	262.4	258.0	250.3	243.8	241.6
75°	214.1	209.7	206.4	200.9	197.6
77.5°	171.3	169.1	164.7	160.3	160.3
80°	129.6	126.3	124.1	123.0	123.0
82.5°	88.9	88.9	88.9	86.7	85.6
85°	57.1	54.9	54.9	52.7	52.7
87.5°	28.5	25.3	24.2	23.1	23.1
90°	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	20.88	22.49	21.24	22.81	23.12	20.56	22.18	20.93	22.49	22.81
	3H	22.65	24.11	23.02	24.43	24.79	22.28	23.74	22.65	24.07	24.43
	4H	23.30	24.68	23.70	25.03	25.40	22.91	24.29	23.31	24.64	25.01
	6H	23.79	25.07	24.20	25.43	25.82	23.40	24.68	23.81	25.04	25.43
	8H	23.94	25.16	24.37	25.55	25.95	23.56	24.78	23.98	25.17	25.57
	12H	24.05	25.22	24.48	25.60	26.03	23.67	24.83	24.10	25.22	25.64
4H	2H	21.45	22.83	21.85	23.18	23.56	21.20	22.58	21.60	22.93	23.31
	3H	23.45	24.60	23.86	25.00	25.40	23.14	24.30	23.55	24.69	25.09
	4H	24.23	25.28	24.66	25.69	26.13	23.90	24.95	24.33	25.36	25.80
	6H	24.85	25.76	25.30	26.20	26.66	24.52	25.43	24.97	25.87	26.32
	8H	25.05	25.91	25.51	26.35	26.81	24.72	25.58	25.18	26.02	26.48
	12H	25.20	25.97	25.68	26.45	26.92	24.87	25.64	25.35	26.11	26.58
8H	4H	24.52	25.37	24.98	25.81	26.28	24.23	25.08	24.69	25.52	25.99
	6H	25.25	25.96	25.75	26.45	26.93	24.96	25.67	25.45	26.16	26.63
	8H	25.53	26.17	26.04	26.67	27.16	25.24	25.88	25.75	26.38	26.87
	12H	25.76	26.32	26.26	26.81	27.37	25.46	26.03	25.97	26.52	27.08
12H	4H	24.55	25.31	25.03	25.79	26.26	24.26	25.03	24.74	25.50	25.97
	6H	25.30	25.94	25.81	26.45	26.93	25.02	25.66	25.53	26.17	26.65
	8H	25.64	26.20	26.14	26.69	27.25	25.36	25.92	25.87	26.42	26.98