

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: P243314

Luminaire Tested: S123DRP-H1000D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243314
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H1000D940-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

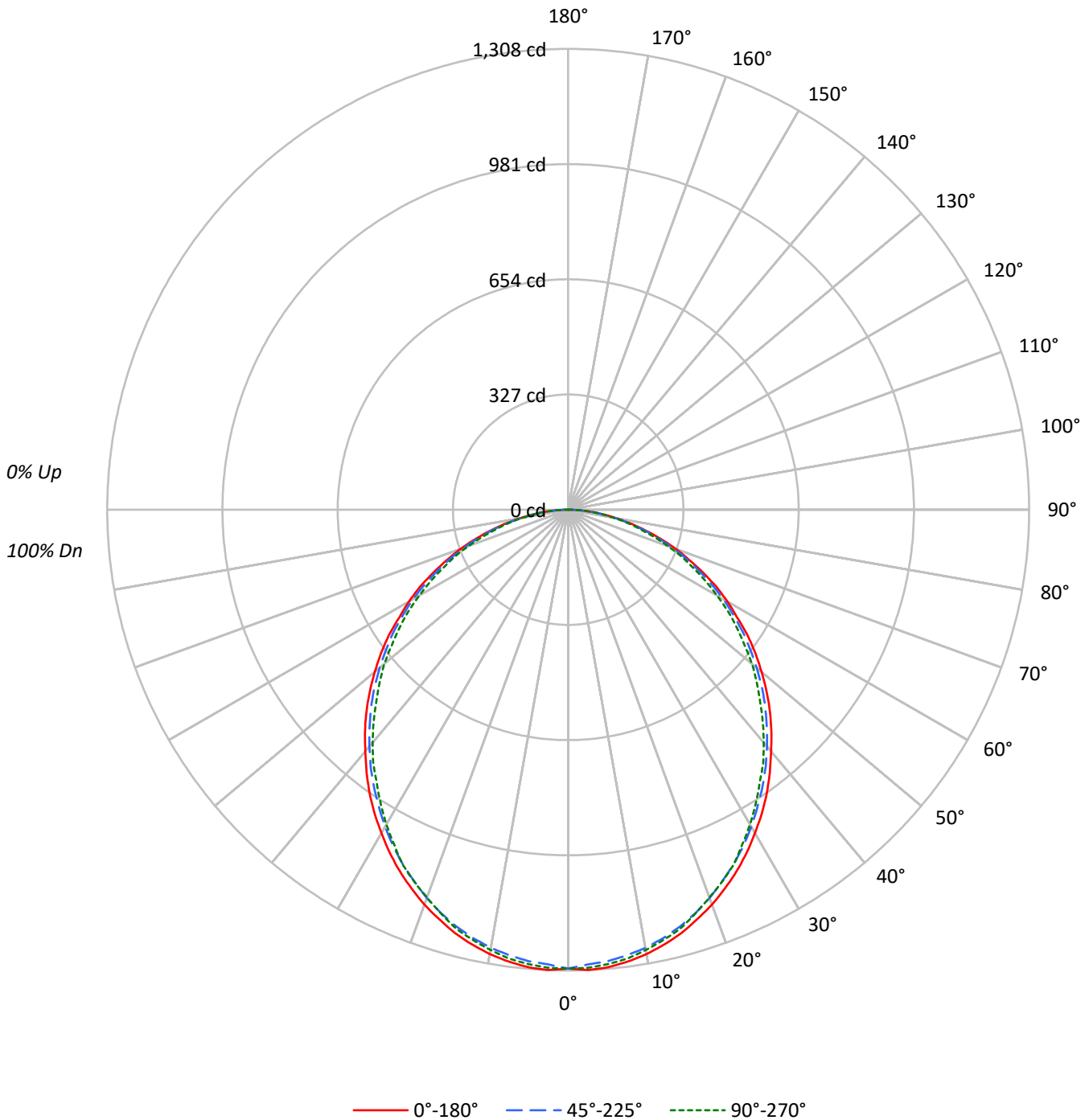
Lumens per Lamp: N/A
Luminaire Lumens: 3445.4 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

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	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	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15787	15787	15787
5°	15860	15651	15756
10°	15766	15542	15620
15°	15603	15374	15441
20°	15387	15124	15110
25°	15136	14848	14863
30°	14833	14548	14441
35°	14537	14220	14013
40°	14170	13880	13660
45°	13878	13547	13196
50°	13506	13160	12836
55°	13115	12775	12344
60°	12650	12313	11818
65°	12103	11734	11240
70°	11493	11110	10653
75°	10659	10359	9807
80°	9591	9368	9067
85°	8956	8511	8219

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13878 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.9	3.6
10°-20°	347.5	10.1
20°-30°	514.4	14.9
30°-40°	603.3	17.5
40°-50°	610.0	17.7
50°-60°	539.4	15.7
60°-70°	405.1	11.8
70°-80°	233.5	6.8
80°-90°	69.3	2.0
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°	984.8	28.6
0°-40°	1588.1	46.1
0°-60°	2737.5	79.5
0°-90°	3445.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3445.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1302	1302	1302	1302	1302	
5°	1304	1298	1286	1297	1295	124
15°	1243	1237	1225	1234	1230	350
25°	1132	1123	1110	1116	1111	521
35°	982	974	961	958	947	614
45°	810	803	790	780	770	624
55°	621	616	604	593	584	554
65°	422	419	409	398	392	418
75°	228	226	221	215	209	241
85°	64	63	61	60	59	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1302.4	1302.4	1302.4	1302.4	1302.4
2.5°	1307.8	1303.5	1291.7	1303.5	1301.3
5°	1303.5	1298.1	1286.3	1297.0	1294.9
7.5°	1293.8	1288.5	1275.6	1287.4	1285.2
10°	1280.9	1275.6	1262.7	1272.3	1269.1
12.5°	1263.8	1258.4	1245.5	1253.0	1250.9
15°	1243.4	1236.9	1225.1	1233.7	1230.5
17.5°	1218.7	1213.3	1200.4	1211.1	1201.5
20°	1192.9	1187.5	1172.5	1182.2	1171.4
22.5°	1162.8	1156.4	1141.4	1147.8	1142.4
25°	1131.7	1123.1	1110.2	1115.6	1111.3
27.5°	1097.3	1088.7	1075.9	1078.0	1070.5
30°	1059.8	1052.2	1039.4	1041.5	1031.8
32.5°	1022.2	1015.7	999.6	999.6	990.0
35°	982.4	973.9	961.0	957.7	947.0
37.5°	939.5	932.0	920.2	914.8	908.4
40°	895.5	891.2	877.2	870.8	863.3
42.5°	853.6	846.1	834.3	825.7	817.1
45°	809.6	803.1	790.3	779.5	769.8
47.5°	763.4	758.0	745.2	733.3	725.8
50°	716.2	711.9	697.9	685.0	680.7
52.5°	670.0	664.6	650.7	638.9	630.3
55°	620.6	616.3	604.5	592.7	584.1
57.5°	568.0	568.0	555.1	544.4	537.9
60°	521.8	516.5	507.9	496.1	487.5
62.5°	473.5	470.3	458.5	446.7	440.2
65°	422.0	418.7	409.1	398.3	391.9
67.5°	371.5	370.4	361.8	353.3	349.0
70°	324.3	322.1	313.5	304.9	300.6
72.5°	275.9	273.8	266.3	258.8	253.4
75°	227.6	225.5	221.2	214.7	209.4
77.5°	180.4	180.4	175.0	172.9	170.7
80°	137.4	136.4	134.2	132.1	129.9
82.5°	98.8	97.7	95.6	94.5	94.5
85°	64.4	63.3	61.2	60.1	59.1
87.5°	33.3	31.1	30.1	27.9	26.8
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	21.04	22.66	21.40	22.98	23.29	20.73	22.35	21.09	22.67	22.98
	3H	22.83	24.30	23.21	24.63	24.99	22.48	23.95	22.86	24.28	24.64
	4H	23.51	24.90	23.91	25.24	25.62	23.13	24.52	23.53	24.86	25.24
	6H	24.01	25.29	24.42	25.66	26.05	23.63	24.92	24.04	25.28	25.67
	8H	24.18	25.40	24.60	25.79	26.19	23.80	25.03	24.23	25.42	25.82
	12H	24.30	25.48	24.73	25.86	26.29	23.92	25.10	24.35	25.48	25.91
4H	2H	21.63	23.01	22.03	23.36	23.74	21.38	22.77	21.78	23.11	23.49
	3H	23.65	24.81	24.06	25.21	25.61	23.36	24.52	23.77	24.92	25.32
	4H	24.46	25.51	24.89	25.93	26.36	24.14	25.19	24.57	25.60	26.04
	6H	25.09	26.01	25.55	26.45	26.91	24.77	25.69	25.22	26.13	26.58
	8H	25.31	26.17	25.77	26.61	27.08	24.99	25.85	25.45	26.29	26.75
	12H	25.49	26.26	25.97	26.73	27.20	25.16	25.93	25.63	26.40	26.87
8H	4H	24.76	25.62	25.22	26.06	26.52	24.47	25.33	24.93	25.77	26.24
	6H	25.51	26.23	26.01	26.72	27.19	25.23	25.94	25.72	26.43	26.90
	8H	25.81	26.45	26.32	26.96	27.44	25.52	26.17	26.03	26.67	27.16
	12H	26.07	26.64	26.57	27.13	27.69	25.77	26.34	26.28	26.83	27.39
12H	4H	24.79	25.56	25.27	26.04	26.51	24.51	25.28	24.99	25.76	26.23
	6H	25.57	26.21	26.08	26.72	27.20	25.29	25.94	25.80	26.44	26.93
	8H	25.92	26.49	26.43	26.98	27.54	25.65	26.22	26.16	26.71	27.27