

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: NEO-RAY

Report Number: P243532

Luminaire Tested: **S124DR-H1195D830-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243532  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DR-H1195D830-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4264.5 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')  
CIE Type: Direct

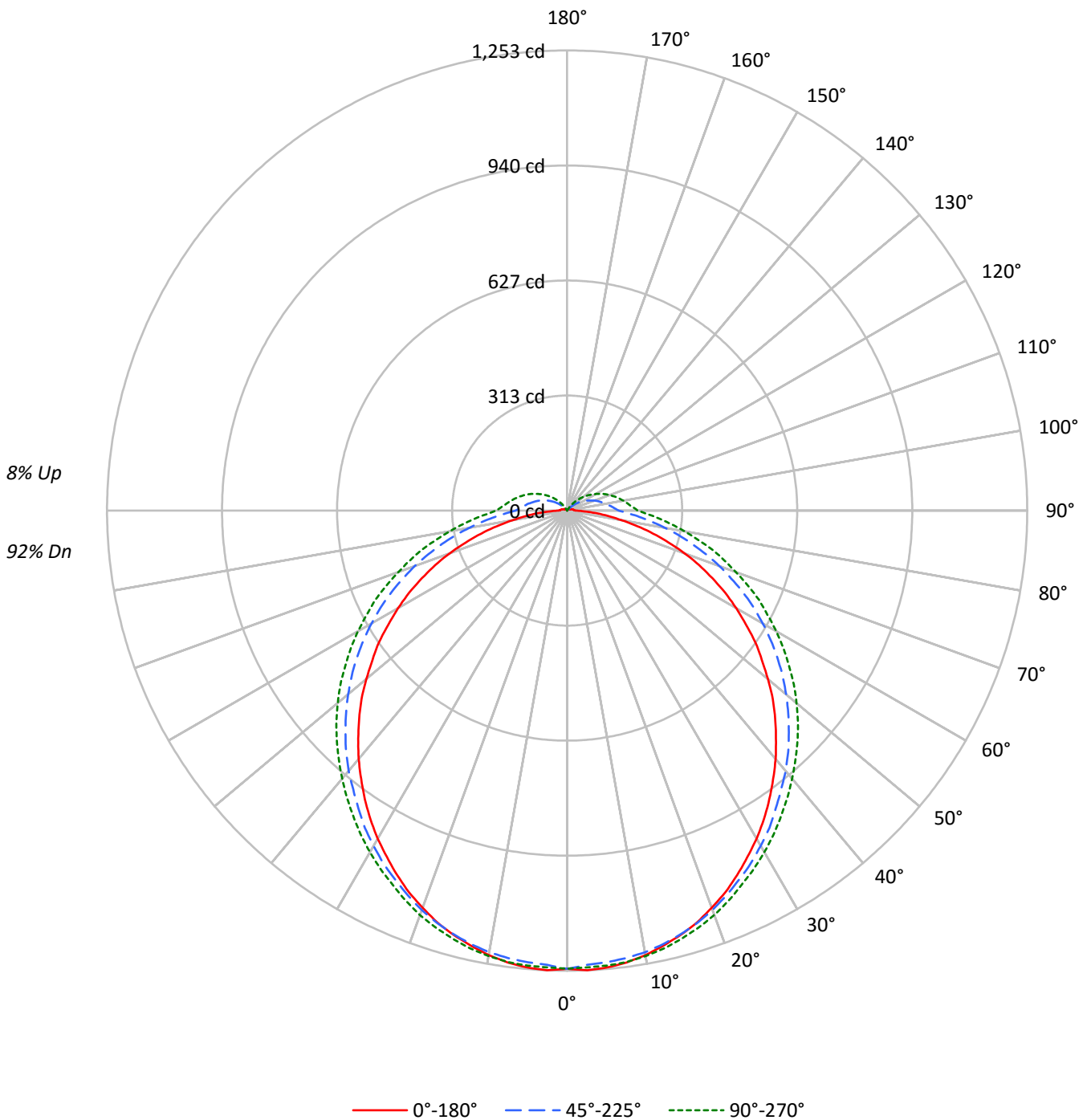
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11090	11090	11090
5°	11123	10821	10844
10°	11051	10639	10618
15°	10942	10423	10362
20°	10801	10192	10106
25°	10634	9928	9807
30°	10458	9680	9552
35°	10262	9405	9287
40°	10064	9170	9038
45°	9855	8916	8803
50°	9618	8659	8557
55°	9409	8387	8273
60°	9111	8084	7997
65°	8770	7743	7717
70°	8361	7356	7318
75°	7713	6881	7028
80°	6835	6424	6618
85°	6189	6051	6380



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.1	2.8
10°-20°	338.7	7.9
20°-30°	512.6	12.0
30°-40°	620.8	14.6
40°-50°	656.6	15.4
50°-60°	618.5	14.5
60°-70°	514.0	12.1
70°-80°	361.3	8.5
80°-90°	203.5	4.8
90°-100°	120.7	2.8
100°-110°	89.4	2.1
110°-120°	59.6	1.4
120°-130°	33.7	0.8
130°-140°	14.4	0.3
140°-150°	2.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	969.4	22.7
0°-40°	1590.2	37.3
0°-60°	2865.3	67.2
0°-90°	3944.0	92.5
90°-120°	269.8	6.3
90°-150°	320.6	7.5
90°-180°	321.0	7.5
0°-180°	4264.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1248	1248	1248	1248	1248	
5°	1249	1244	1234	1245	1244	119
15°	1196	1198	1194	1208	1206	337
25°	1095	1104	1108	1124	1124	505
35°	960	976	990	1012	1016	601
45°	801	826	854	879	887	618
55°	626	659	699	729	737	558
65°	436	480	529	562	577	432
75°	243	294	353	392	408	257
85°	76	134	198	240	253	78
90°	22	78	140	179	192	15
95°	19	64	122	160	171	15
105°	13	41	93	127	139	14
115°	9	21	65	96	107	9
125°	5	4	38	65	74	5
135°	3	3	12	34	42	2
145°	1	0	0	8	13	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°	1247.6	1247.6	1247.6	1247.6	1247.6
2.5°	1252.9	1248.9	1238.3	1246.2	1244.9
5°	1248.9	1243.6	1234.3	1244.9	1243.6
7.5°	1240.9	1237.0	1229.0	1240.9	1239.6
10°	1229.0	1226.4	1221.1	1231.7	1231.7
12.5°	1213.1	1213.1	1209.1	1221.1	1221.1
15°	1195.9	1198.5	1194.5	1207.8	1206.5
17.5°	1176.0	1178.6	1177.3	1190.6	1190.6
20°	1150.8	1154.8	1157.4	1172.0	1172.0
22.5°	1125.6	1130.9	1133.6	1149.5	1149.5
25°	1095.1	1104.4	1108.4	1124.3	1124.3
27.5°	1063.3	1075.2	1083.2	1097.8	1100.4
30°	1031.5	1044.7	1054.0	1069.9	1073.9
32.5°	997.0	1010.3	1024.8	1040.8	1046.1
35°	959.9	975.8	990.4	1011.6	1015.6
37.5°	921.4	940.0	957.2	979.8	985.1
40°	883.0	905.5	925.4	946.6	953.2
42.5°	841.9	864.4	890.9	913.5	920.1
45°	800.8	826.0	853.8	879.0	887.0
47.5°	759.7	786.2	816.7	843.2	852.5
50°	713.3	742.4	778.2	804.8	815.4
52.5°	668.2	700.0	739.8	766.3	778.2
55°	625.8	658.9	698.7	729.2	737.1
57.5°	576.7	613.8	657.6	690.7	698.7
60°	531.6	568.8	615.2	648.3	657.6
62.5°	485.2	525.0	572.7	605.9	615.2
65°	436.2	479.9	529.0	562.1	576.7
67.5°	388.5	432.2	483.9	521.0	533.0
70°	340.7	385.8	441.5	478.6	487.9
72.5°	290.3	339.4	396.4	434.9	448.1
75°	242.6	294.3	352.7	392.4	408.3
77.5°	196.2	250.6	311.6	352.7	363.3
80°	149.8	209.5	270.5	311.6	324.8
82.5°	112.7	168.4	232.0	275.8	286.4
85°	75.6	133.9	197.5	240.0	253.2
87.5°	45.1	104.7	165.7	205.5	218.8
90°	22.5	78.2	140.5	179.0	192.2
92.5°	19.9	70.3	129.9	168.4	181.6
95°	18.6	63.6	122.0	160.4	171.0
97.5°	17.2	58.3	114.0	151.1	163.1
100°	15.9	51.7	107.4	143.2	155.1
102.5°	14.6	46.4	99.4	135.2	147.2
105°	13.3	41.1	92.8	127.3	139.2
107.5°	11.9	35.8	86.2	119.3	131.3
110°	10.6	30.5	79.5	111.4	123.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	9.3	26.5	71.6	103.4	115.3
115°	9.3	21.2	65.0	95.5	107.4
117.5°	8.0	15.9	58.3	87.5	98.1
120°	8.0	11.9	51.7	79.5	90.2
122.5°	6.6	8.0	45.1	72.9	82.2
125°	5.3	4.0	38.4	65.0	74.2
127.5°	5.3	4.0	31.8	57.0	66.3
130°	4.0	4.0	25.2	49.1	58.3
132.5°	4.0	2.7	18.6	42.4	50.4
135°	2.7	2.7	11.9	34.5	42.4
137.5°	2.7	1.3	8.0	27.8	35.8
140°	2.7	1.3	2.7	21.2	27.8
142.5°	1.3	1.3	0.0	14.6	19.9
145°	1.3	0.0	0.0	8.0	13.3
147.5°	1.3	0.0	0.0	1.3	6.6
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

(END OF REPORT)