

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: P243555

Luminaire Tested: **S124DR-H1020D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243555
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-H1020D940-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3453.6 lumens
Efficiency: N/A
Efficacy: 109.6 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

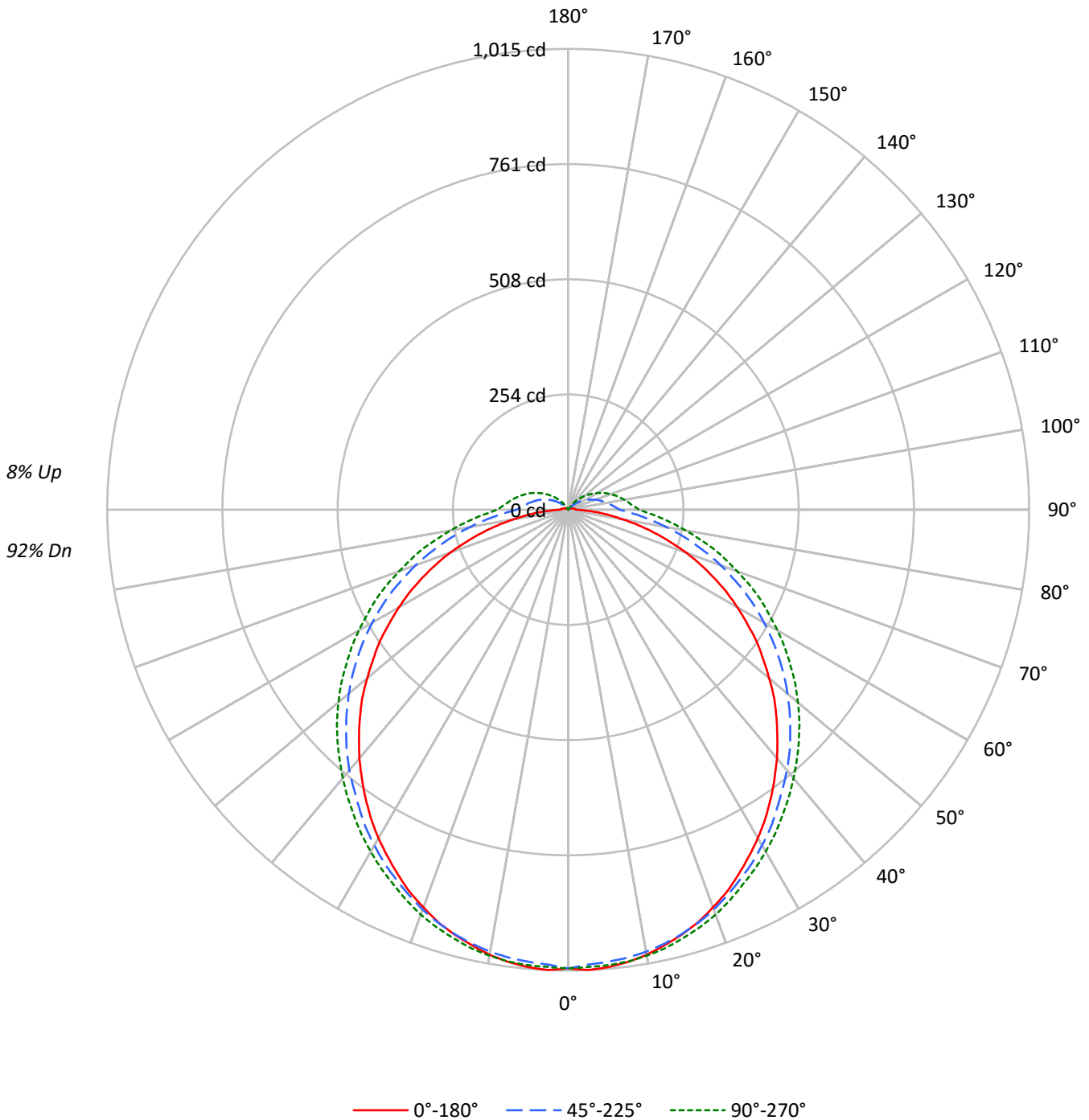
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8981	8981	8981
5°	9008	8763	8781
10°	8950	8616	8599
15°	8862	8442	8392
20°	8748	8254	8184
25°	8612	8040	7942
30°	8468	7839	7736
35°	8311	7617	7521
40°	8151	7426	7320
45°	7981	7221	7129
50°	7789	7013	6929
55°	7620	6792	6700
60°	7380	6546	6477
65°	7103	6271	6250
70°	6770	5957	5926
75°	6247	5572	5693
80°	5534	5201	5361
85°	5010	4902	5168



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.7	2.8
10°-20°	274.3	7.9
20°-30°	415.1	12.0
30°-40°	502.7	14.6
40°-50°	531.7	15.4
50°-60°	500.9	14.5
60°-70°	416.2	12.1
70°-80°	292.6	8.5
80°-90°	164.8	4.8
90°-100°	97.8	2.8
100°-110°	72.4	2.1
110°-120°	48.3	1.4
120°-130°	27.2	0.8
130°-140°	11.6	0.3
140°-150°	2.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	785.1	22.7
0°-40°	1287.8	37.3
0°-60°	2320.4	67.2
0°-90°	3194.0	92.5
90°-120°	218.5	6.3
90°-150°	259.6	7.5
90°-180°	260.0	7.5
0°-180°	3453.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1010	1010	1010	1010	1010	
5°	1011	1007	1000	1008	1007	96
15°	968	971	967	978	977	273
25°	887	894	898	910	910	409
35°	777	790	802	819	822	486
45°	648	669	692	712	718	500
55°	507	534	566	590	597	452
65°	353	389	428	455	467	350
75°	196	238	286	318	331	208
85°	61	108	160	194	205	63
90°	18	63	114	145	156	12
95°	15	52	99	130	138	12
105°	11	33	75	103	113	11
115°	8	17	53	77	87	7
125°	4	3	31	53	60	4
135°	2	2	10	28	34	2
145°	1	0	0	6	11	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°	1010.4	1010.4	1010.4	1010.4	1010.4
2.5°	1014.7	1011.4	1002.8	1009.3	1008.2
5°	1011.4	1007.1	999.6	1008.2	1007.1
7.5°	1005.0	1001.8	995.3	1005.0	1003.9
10°	995.3	993.2	988.9	997.5	997.5
12.5°	982.4	982.4	979.2	988.9	988.9
15°	968.5	970.6	967.4	978.1	977.1
17.5°	952.4	954.5	953.5	964.2	964.2
20°	932.0	935.2	937.3	949.2	949.2
22.5°	911.6	915.9	918.0	930.9	930.9
25°	886.9	894.4	897.6	910.5	910.5
27.5°	861.1	870.8	877.2	889.0	891.2
30°	835.3	846.1	853.6	866.5	869.7
32.5°	807.4	818.2	830.0	842.9	847.2
35°	777.4	790.2	802.1	819.2	822.5
37.5°	746.2	761.3	775.2	793.5	797.8
40°	715.1	733.3	749.4	766.6	772.0
42.5°	681.8	700.1	721.5	739.8	745.2
45°	648.5	668.9	691.5	711.9	718.3
47.5°	615.2	636.7	661.4	682.9	690.4
50°	577.7	601.3	630.3	651.7	660.3
52.5°	541.1	566.9	599.1	620.6	630.3
55°	506.8	533.6	565.8	590.5	597.0
57.5°	467.1	497.1	532.6	559.4	565.8
60°	430.6	460.6	498.2	525.0	532.6
62.5°	393.0	425.2	463.8	490.7	498.2
65°	353.3	388.7	428.4	455.3	467.1
67.5°	314.6	350.0	391.9	422.0	431.6
70°	275.9	312.4	357.5	387.6	395.1
72.5°	235.1	274.9	321.0	352.2	362.9
75°	196.5	238.4	285.6	317.8	330.7
77.5°	158.9	202.9	252.3	285.6	294.2
80°	121.3	169.6	219.0	252.3	263.1
82.5°	91.3	136.4	187.9	223.3	231.9
85°	61.2	108.4	160.0	194.3	205.1
87.5°	36.5	84.8	134.2	166.4	177.2
90°	18.3	63.3	113.8	145.0	155.7
92.5°	16.1	56.9	105.2	136.4	147.1
95°	15.0	51.5	98.8	129.9	138.5
97.5°	14.0	47.2	92.3	122.4	132.1
100°	12.9	41.9	87.0	116.0	125.6
102.5°	11.8	37.6	80.5	109.5	119.2
105°	10.7	33.3	75.2	103.1	112.7
107.5°	9.7	29.0	69.8	96.6	106.3
110°	8.6	24.7	64.4	90.2	99.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.5	21.5	58.0	83.7	93.4
115°	7.5	17.2	52.6	77.3	87.0
117.5°	6.4	12.9	47.2	70.9	79.5
120°	6.4	9.7	41.9	64.4	73.0
122.5°	5.4	6.4	36.5	59.1	66.6
125°	4.3	3.2	31.1	52.6	60.1
127.5°	4.3	3.2	25.8	46.2	53.7
130°	3.2	3.2	20.4	39.7	47.2
132.5°	3.2	2.1	15.0	34.4	40.8
135°	2.1	2.1	9.7	27.9	34.4
137.5°	2.1	1.1	6.4	22.5	29.0
140°	2.1	1.1	2.1	17.2	22.5
142.5°	1.1	1.1	0.0	11.8	16.1
145°	1.1	0.0	0.0	6.4	10.7
147.5°	1.1	0.0	0.0	1.1	5.4
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

(END OF REPORT)