

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: P243535

Luminaire Tested: **S124DR-H1020D835-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243535
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-H1020D835-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3873.1 lumens
Efficiency: N/A
Efficacy: 123.0 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

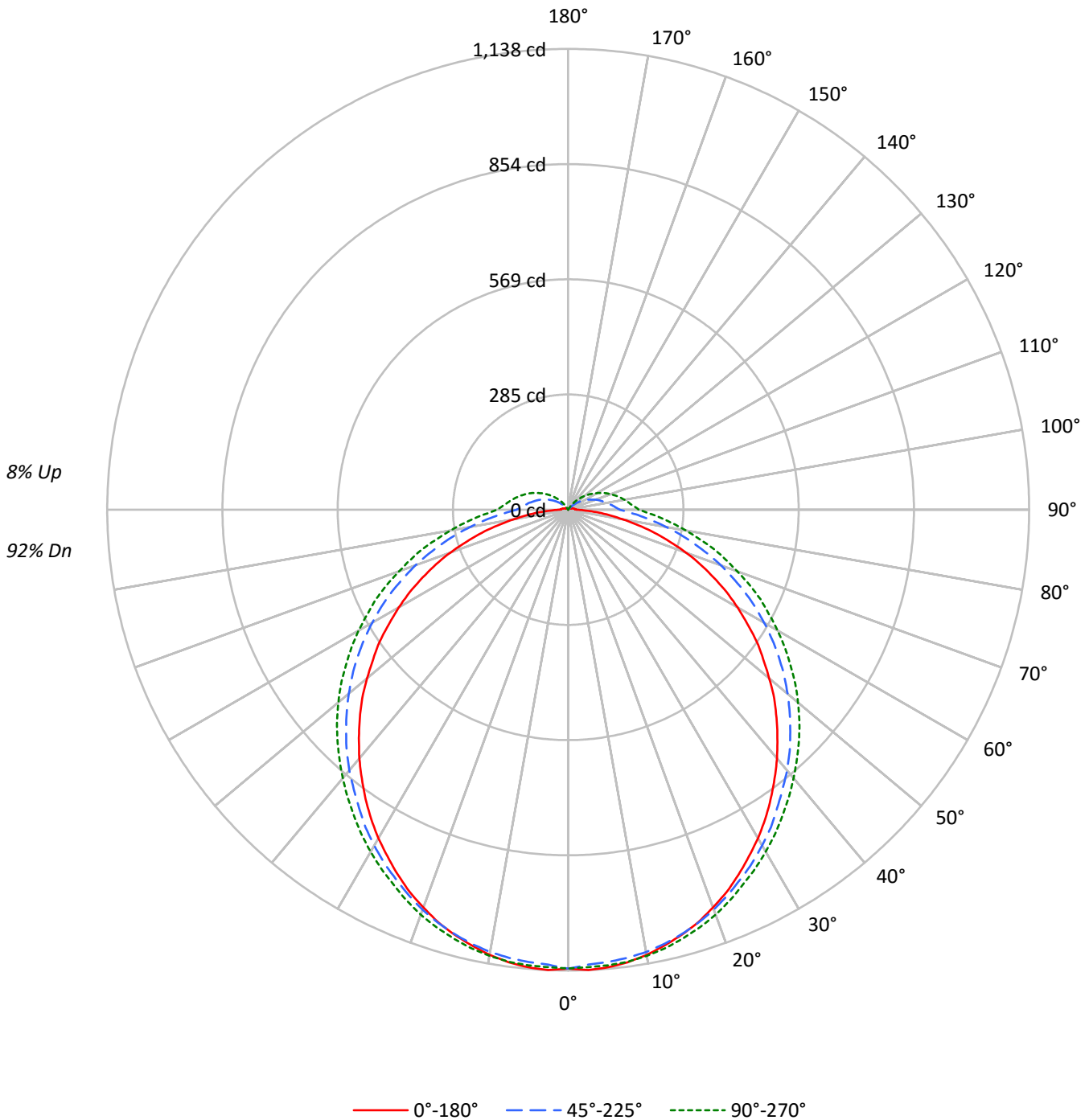
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	10072	10072	10072
5°	10102	9827	9848
10°	10037	9663	9643
15°	9938	9467	9411
20°	9810	9257	9178
25°	9658	9016	8907
30°	9497	8792	8675
35°	9320	8542	8434
40°	9140	8329	8209
45°	8950	8097	7994
50°	8734	7864	7771
55°	8545	7618	7514
60°	8275	7341	7263
65°	7964	7032	7009
70°	7595	6681	6646
75°	7007	6249	6385
80°	6210	5832	6011
85°	5616	5496	5795



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.3	2.8
10°-20°	307.6	7.9
20°-30°	465.6	12.0
30°-40°	563.8	14.6
40°-50°	596.3	15.4
50°-60°	561.7	14.5
60°-70°	466.8	12.1
70°-80°	328.1	8.5
80°-90°	184.8	4.8
90°-100°	109.7	2.8
100°-110°	81.2	2.1
110°-120°	54.2	1.4
120°-130°	30.6	0.8
130°-140°	13.1	0.3
140°-150°	2.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	880.4	22.7
0°-40°	1444.2	37.3
0°-60°	2602.2	67.2
0°-90°	3581.9	92.5
90°-120°	245.0	6.3
90°-150°	291.1	7.5
90°-180°	291.0	7.5
0°-180°	3873.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1133	1133	1133	1133	1133	
5°	1134	1129	1121	1131	1129	108
15°	1086	1088	1085	1097	1096	306
25°	995	1003	1007	1021	1021	458
35°	872	886	900	919	922	545
45°	727	750	775	798	806	561
55°	568	598	635	662	670	506
65°	396	436	480	510	524	392
75°	220	267	320	356	371	233
85°	69	122	179	218	230	71
90°	20	71	128	163	175	14
95°	17	58	111	146	155	13
105°	12	37	84	116	126	13
115°	8	19	59	87	98	8
125°	5	4	35	59	67	5
135°	2	2	11	31	38	2
145°	1	0	0	7	12	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°	1133.1	1133.1	1133.1	1133.1	1133.1
2.5°	1137.9	1134.3	1124.6	1131.9	1130.6
5°	1134.3	1129.4	1121.0	1130.6	1129.4
7.5°	1127.0	1123.4	1116.2	1127.0	1125.8
10°	1116.2	1113.8	1109.0	1118.6	1118.6
12.5°	1101.8	1101.8	1098.1	1109.0	1109.0
15°	1086.1	1088.5	1084.9	1096.9	1095.7
17.5°	1068.0	1070.4	1069.2	1081.3	1081.3
20°	1045.2	1048.8	1051.2	1064.4	1064.4
22.5°	1022.3	1027.1	1029.5	1044.0	1044.0
25°	994.6	1003.0	1006.6	1021.1	1021.1
27.5°	965.7	976.5	983.7	997.0	999.4
30°	936.8	948.8	957.3	971.7	975.3
32.5°	905.5	917.5	930.8	945.2	950.0
35°	871.8	886.2	899.5	918.7	922.3
37.5°	836.8	853.7	869.4	889.8	894.6
40°	801.9	822.4	840.5	859.7	865.7
42.5°	764.6	785.1	809.2	829.6	835.6
45°	727.3	750.2	775.4	798.3	805.5
47.5°	689.9	714.0	741.7	765.8	774.2
50°	647.8	674.3	706.8	730.9	740.5
52.5°	606.9	635.8	671.9	696.0	706.8
55°	568.3	598.4	634.6	662.3	669.5
57.5°	523.8	557.5	597.2	627.3	634.6
60°	482.8	516.6	558.7	588.8	597.2
62.5°	440.7	476.8	520.2	550.3	558.7
65°	396.1	435.9	480.4	510.5	523.8
67.5°	352.8	392.5	439.5	473.2	484.0
70°	309.5	350.4	401.0	434.7	443.1
72.5°	263.7	308.2	360.0	394.9	407.0
75°	220.4	267.3	320.3	356.4	370.9
77.5°	178.2	227.6	283.0	320.3	329.9
80°	136.1	190.2	245.6	283.0	295.0
82.5°	102.3	152.9	210.7	250.5	260.1
85°	68.6	121.6	179.4	217.9	230.0
87.5°	40.9	95.1	150.5	186.6	198.7
90°	20.5	71.0	127.6	162.6	174.6
92.5°	18.1	63.8	118.0	152.9	165.0
95°	16.9	57.8	110.8	145.7	155.3
97.5°	15.7	53.0	103.6	137.3	148.1
100°	14.4	47.0	97.5	130.0	140.9
102.5°	13.2	42.1	90.3	122.8	133.7
105°	12.0	37.3	84.3	115.6	126.4
107.5°	10.8	32.5	78.3	108.4	119.2
110°	9.6	27.7	72.2	101.1	112.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	8.4	24.1	65.0	93.9	104.8
115°	8.4	19.3	59.0	86.7	97.5
117.5°	7.2	14.4	53.0	79.5	89.1
120°	7.2	10.8	47.0	72.2	81.9
122.5°	6.0	7.2	40.9	66.2	74.7
125°	4.8	3.6	34.9	59.0	67.4
127.5°	4.8	3.6	28.9	51.8	60.2
130°	3.6	3.6	22.9	44.6	53.0
132.5°	3.6	2.4	16.9	38.5	45.8
135°	2.4	2.4	10.8	31.3	38.5
137.5°	2.4	1.2	7.2	25.3	32.5
140°	2.4	1.2	2.4	19.3	25.3
142.5°	1.2	1.2	0.0	13.2	18.1
145°	1.2	0.0	0.0	7.2	12.0
147.5°	1.2	0.0	0.0	1.2	6.0
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)