

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P918525

Luminaire Tested: DFN2DIP-4P2F0-030D030US935-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918525
REPORT IS A COMBINATION OF REPORTS P900540 AND P897455
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-4P2F0-030D030US935-RLLONL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

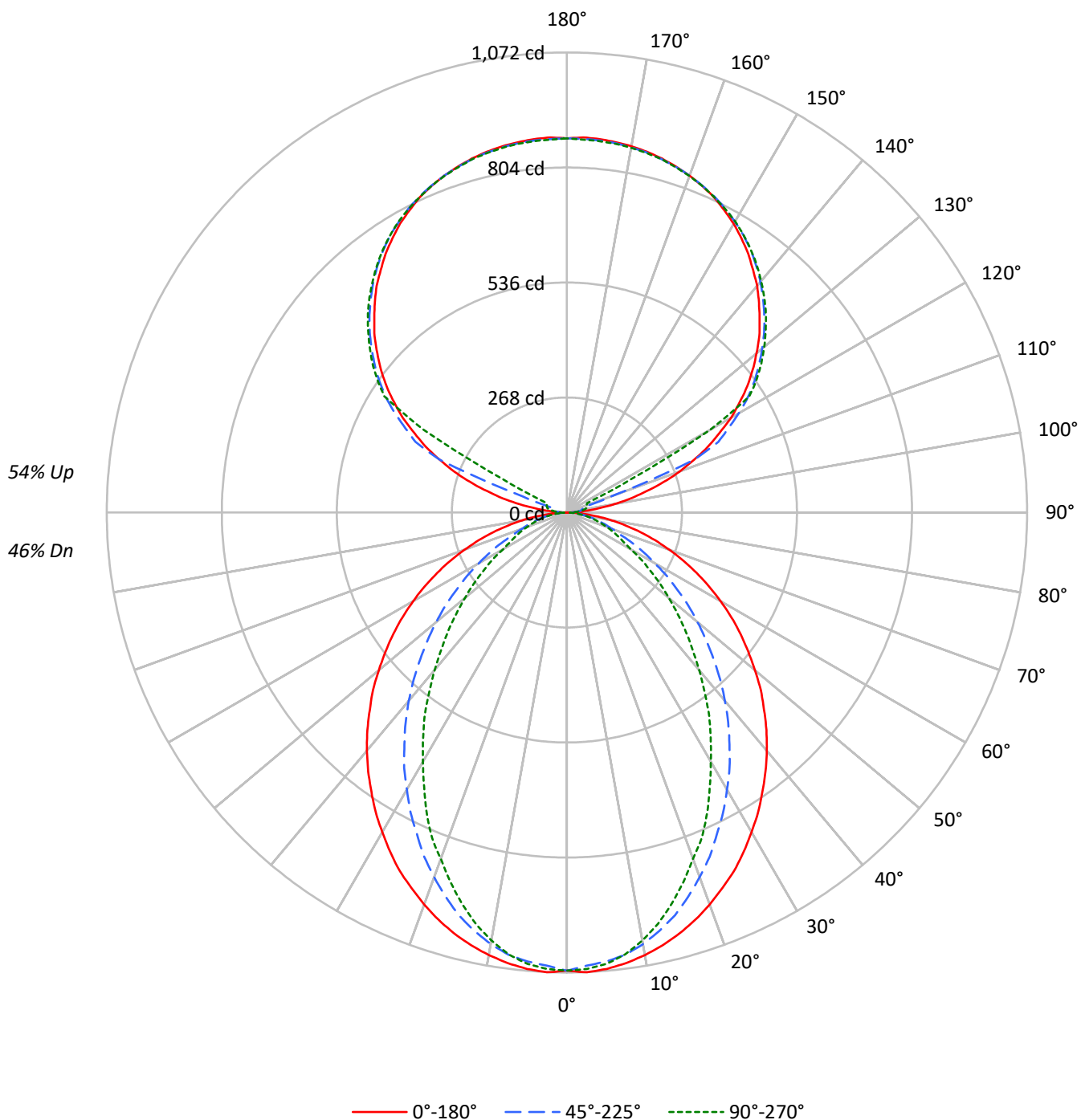
Lumens per Lamp: N/A
Luminaire Lumens: 4752.7 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.07' x L: 2.07' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 51
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P918525

CATALOG NUMBER: DFN2DIP-4P2F0-030D030US935-RLLONL

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2673	2673	2673
5°	2672	2624	2643
10°	2640	2566	2553
15°	2599	2474	2416
20°	2545	2351	2249
25°	2490	2214	2088
30°	2419	2075	1886
35°	2348	1925	1708
40°	2276	1771	1505
45°	2193	1602	1322
50°	2107	1431	1142
55°	2016	1249	971
60°	1911	1060	795
65°	1790	869	710
70°	1643	691	637
75°	1457	596	571
80°	1192	481	481
85°	769	295	339

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2193 cd/sqm

TEST NUMBER: P918525

CATALOG NUMBER: DFN2DIP-4P2F0-030D030US935-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	2.1
10°-20°	274.7	5.8
20°-30°	385.6	8.1
30°-40°	420.3	8.8
40°-50°	386.3	8.1
50°-60°	303.4	6.4
60°-70°	197.5	4.2
70°-80°	101.7	2.1
80°-90°	27.5	0.6
90°-100°	28.7	0.6
100°-110°	107.2	2.3
110°-120°	284.2	6.0
120°-130°	471.3	9.9
130°-140°	500.7	10.5
140°-150°	465.3	9.8
150°-160°	374.1	7.9
160°-170°	241.1	5.1
170°-180°	83.0	1.7
0°-30°	760.3	16.0
0°-40°	1180.7	24.8
0°-60°	1870.4	39.4
0°-90°	2197.0	46.2
90°-120°	420.1	8.8
90°-150°	1857.5	39.1
90°-180°	2556.0	53.8
0°-180°	4752.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1068	1063	1050	1059	1056	101
15°	1015	1005	972	954	944	286
25°	922	891	827	787	773	424
35°	794	745	660	599	578	497
45°	649	584	483	414	391	501
55°	494	418	314	256	238	441
65°	333	255	168	135	132	330
75°	178	110	77	70	70	188
85°	42	21	18	18	18	48
90°	1	8	13	16	17	4
95°	41	20	24	28	27	49
105°	192	211	38	45	48	205
115°	363	373	389	97	52	357
125°	513	521	533	537	539	457
135°	635	645	650	657	655	490
145°	736	736	746	751	747	460
155°	810	805	812	816	811	373
165°	854	850	852	857	852	241
175°	874	869	870	875	869	83
180°	872	872	872	872	872	

TEST NUMBER: P918525

CATALOG NUMBER: DFN2DIP-4P2F0-030D030US935-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1067.6	1067.6	1067.6	1067.6	1067.6
2.5°	1072.4	1067.6	1056.9	1066.6	1064.7
5°	1067.6	1062.7	1050.2	1058.9	1055.9
7.5°	1058.9	1053.1	1039.6	1043.4	1038.5
10°	1047.2	1040.5	1021.2	1018.2	1012.5
12.5°	1032.8	1024.1	998.0	992.2	981.5
15°	1015.4	1004.7	971.9	953.6	943.9
17.5°	995.1	979.6	939.0	917.8	902.3
20°	971.9	952.5	904.2	880.2	858.8
22.5°	946.8	924.5	868.5	835.7	821.2
25°	921.7	890.7	827.0	787.4	772.8
27.5°	891.7	858.8	788.3	743.0	720.7
30°	859.9	823.1	745.8	696.6	670.5
32.5°	828.9	784.5	705.3	647.3	623.1
35°	794.2	744.8	659.9	599.0	577.7
37.5°	760.3	707.1	617.3	550.6	526.6
40°	724.6	666.7	572.9	504.3	479.2
42.5°	687.9	626.1	528.5	456.9	432.8
45°	649.3	584.4	483.1	414.4	391.2
47.5°	612.5	544.0	439.6	370.9	349.7
50°	572.0	503.3	397.1	330.4	310.1
52.5°	532.3	459.9	356.5	292.7	274.4
55°	493.6	418.3	313.9	256.1	237.7
57.5°	454.1	376.8	276.4	222.2	206.7
60°	413.5	336.2	236.7	187.4	172.0
62.5°	373.9	296.6	202.9	156.5	148.9
65°	333.3	255.0	168.1	135.3	132.3
67.5°	294.7	216.4	135.3	118.8	115.9
70°	254.1	178.7	112.0	102.4	98.5
72.5°	215.4	143.9	93.7	86.0	84.0
75°	177.7	110.1	77.3	70.5	69.6
77.5°	140.1	78.2	60.9	57.0	55.0
80°	105.3	56.1	46.3	42.5	42.5
82.5°	73.4	37.7	31.9	30.0	30.0
85°	41.5	21.2	18.3	18.3	18.3
87.5°	15.5	7.7	7.7	6.8	6.8
90°	0.6	7.6	12.6	15.8	17.0
92.5°	15.8	13.3	15.2	16.4	17.0
95°	41.0	20.1	24.5	27.8	27.1
97.5°	73.8	22.1	32.1	34.1	34.7
100°	111.7	25.2	36.0	41.0	42.3
102.5°	153.3	152.1	37.2	44.1	46.1
105°	191.7	210.7	38.5	45.4	48.0
107.5°	236.5	252.3	39.8	46.7	49.2
110°	279.5	292.7	110.4	47.4	49.9

TEST NUMBER: P918525

CATALOG NUMBER: DFN2DIP-4P2F0-030D030US935-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	319.9	331.1	320.5	48.6	50.5
115°	362.7	373.4	389.2	97.1	51.7
117.5°	399.9	412.5	423.3	333.0	167.8
120°	441.5	451.0	462.4	469.9	384.8
122.5°	476.8	487.0	499.6	503.3	504.0
125°	512.8	521.0	533.0	537.4	539.3
127.5°	545.6	554.4	564.0	570.2	570.8
130°	576.5	586.7	593.6	600.5	599.9
132.5°	608.0	616.3	623.2	628.9	628.3
135°	634.6	644.7	650.3	656.7	655.4
137.5°	662.3	669.9	676.2	682.5	680.6
140°	689.4	694.5	701.4	707.1	704.0
142.5°	712.2	716.6	724.8	729.8	726.7
145°	736.2	735.5	746.2	750.6	747.4
147.5°	756.9	755.0	765.8	768.9	766.4
150°	777.1	772.7	782.8	786.5	783.4
152.5°	794.1	789.1	798.6	802.4	798.0
155°	810.5	804.9	812.4	816.2	811.2
157.5°	823.8	818.8	824.5	828.9	823.8
160°	835.2	831.4	835.2	839.0	834.5
162.5°	845.2	841.5	844.6	849.0	843.3
165°	854.0	850.3	852.2	856.6	852.2
167.5°	861.0	857.2	859.1	863.6	857.9
170°	866.7	862.9	864.2	868.6	862.9
172.5°	870.5	866.7	868.0	872.4	866.7
175°	873.6	869.2	870.5	874.9	868.6
177.5°	874.9	870.5	871.2	875.5	869.9
180°	871.8	871.8	871.8	871.8	871.8

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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	10.07	10.87	11.06	11.87	13.20	6.03	6.83	7.02	7.83	9.15
	3H	11.72	12.43	12.72	13.44	14.79	7.19	7.91	8.20	8.92	10.27
	4H	12.31	12.99	13.33	14.00	15.36	7.62	8.30	8.64	9.32	10.67
	6H	12.71	13.33	13.74	14.35	15.72	7.93	8.55	8.95	9.57	10.94
	8H	12.83	13.42	13.86	14.45	15.82	8.01	8.60	9.04	9.63	11.00
	12H	12.88	13.44	13.92	14.47	15.86	8.04	8.60	9.08	9.63	11.02
4H	2H	10.07	10.75	11.10	11.77	13.12	6.61	7.28	7.63	8.30	9.65
	3H	11.87	12.44	12.91	13.48	14.85	7.93	8.49	8.96	9.53	10.90
	4H	12.55	13.06	13.59	14.10	15.49	8.46	8.97	9.50	10.01	11.40
	6H	13.04	13.48	14.09	14.54	15.93	8.85	9.29	9.90	10.35	11.74
	8H	13.20	13.61	14.25	14.66	16.07	8.97	9.38	10.02	10.43	11.83
	12H	13.28	13.65	14.35	14.72	16.13	9.02	9.39	10.09	10.46	11.87
8H	4H	12.51	12.92	13.56	13.97	15.37	8.72	9.13	9.77	10.18	11.59
	6H	13.05	13.39	14.12	14.48	15.88	9.21	9.55	10.28	10.64	12.04
	8H	13.25	13.55	14.33	14.62	16.04	9.39	9.68	10.47	10.76	12.18
	12H	13.37	13.63	14.45	14.70	16.17	9.49	9.75	10.57	10.82	12.28
12H	4H	12.46	12.83	13.53	13.90	15.30	8.72	9.09	9.79	10.16	11.57
	6H	13.02	13.32	14.10	14.40	15.82	9.25	9.55	10.33	10.63	12.05
	8H	13.22	13.49	14.31	14.56	16.02	9.44	9.71	10.53	10.78	12.24

END OF REPORT