

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: P920270

Luminaire Tested: DFN2DIP-SQ3F0-120D040US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920270
REPORT IS A COMBINATION OF REPORTS P899878 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-120D040US935-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

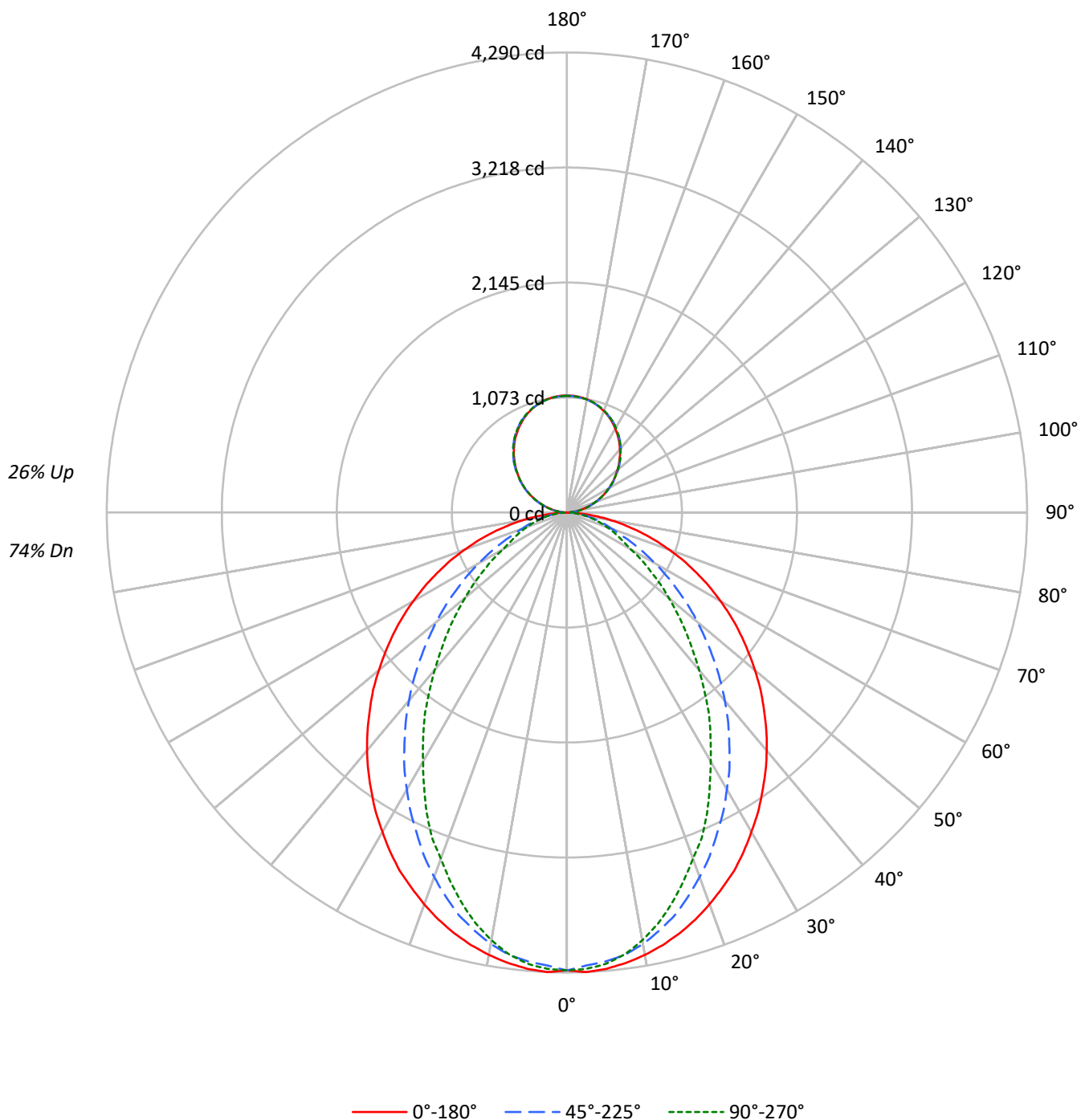
Lumens per Lamp: N/A
Luminaire Lumens: 11830.1 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 156.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P920270

CATALOG NUMBER: DFN2DIP-SQ3F0-120D040US935-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P920270

CATALOG NUMBER: DFN2DIP-SQ3F0-120D040US935-RLLFLL

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
RCR																	
0	113	113	113	113	107	107	107	107	97	97	97		87	87	87		78
1	104	100	96	93	99	95	92	89	86	84	81		78	76	74		70
2	95	88	82	77	90	84	79	74	76	72	68		69	66	63		63
3	87	78	71	65	83	75	68	63	68	63	58		62	58	54		56
4	80	70	62	56	76	67	60	54	61	55	51		56	51	47		51
5	74	63	54	48	70	60	53	47	55	49	44		51	45	42		46
6	69	57	48	43	65	54	47	41	50	44	39		46	41	37		42
7	64	51	43	38	61	49	42	37	46	39	35		42	37	33		39
8	59	47	39	34	57	45	38	33	42	36	31		39	34	30		36
9	56	43	36	31	53	42	35	30	39	33	28		36	31	27		33
10	52	40	33	28	50	39	32	27	36	30	26		33	28	25		31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4893	4893	4893
5°	4898	4812	4844
10°	4846	4714	4685
15°	4776	4555	4440
20°	4685	4338	4140
25°	4591	4094	3850
30°	4467	3845	3483
35°	4344	3577	3160
40°	4220	3300	2791
45°	4075	2993	2456
50°	3925	2684	2129
55°	3769	2354	1815
60°	3588	2009	1492
65°	3378	1659	1341
70°	3125	1332	1211
75°	2806	1168	1099
80°	2345	969	947
85°	1591	632	703

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4075 cd/sqm

TEST NUMBER: P920270

CATALOG NUMBER: DFN2DIP-SQ3F0-120D040US935-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	400.2	3.4
10°-20°	1098.7	9.3
20°-30°	1542.5	13.0
30°-40°	1681.4	14.2
40°-50°	1545.4	13.1
50°-60°	1213.7	10.3
60°-70°	790.0	6.7
70°-80°	406.7	3.4
80°-90°	106.9	0.9
90°-100°	67.4	0.6
100°-110°	214.2	1.8
110°-120°	366.5	3.1
120°-130°	482.0	4.1
130°-140°	541.0	4.6
140°-150°	530.5	4.5
150°-160°	445.0	3.8
160°-170°	295.1	2.5
170°-180°	103.2	0.9
0°-30°	3041.3	25.7
0°-40°	4722.7	39.9
0°-60°	7481.7	63.2
0°-90°	8785.3	74.3
90°-120°	648.0	5.5
90°-150°	2201.5	18.6
90°-180°	3045.0	25.7
0°-180°	11830.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4270	4270	4270	4270	4270	
5°	4270	4251	4200	4235	4224	405
15°	4062	4019	3888	3814	3776	1144
25°	3687	3563	3308	3150	3091	1696
35°	3177	2980	2640	2396	2311	1988
45°	2597	2338	1932	1658	1565	2006
55°	1975	1673	1256	1024	951	1764
65°	1333	1020	672	541	529	1322
75°	711	440	309	282	278	752
85°	166	85	73	73	73	191
90°	1	12	32	30	31	12
95°	48	57	59	59	57	53
105°	198	200	202	204	204	209
115°	368	373	371	370	368	364
125°	535	543	540	538	537	478
135°	692	702	704	703	700	535
145°	840	846	852	853	849	525
155°	960	963	966	971	968	442
165°	1045	1044	1044	1050	1046	295
175°	1087	1085	1083	1089	1084	103
180°	1089	1089	1089	1089	1089	

TEST NUMBER: P920270

CATALOG NUMBER: DFN2DIP-SQ3F0-120D040US935-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4270.2	4270.2	4270.2	4270.2	4270.2
2.5°	4289.5	4270.2	4227.6	4266.5	4258.7
5°	4270.2	4250.9	4200.5	4235.3	4223.9
7.5°	4235.3	4212.3	4158.3	4173.4	4154.1
10°	4189.0	4162.0	4084.8	4073.0	4050.0
12.5°	4131.2	4096.4	3991.8	3968.9	3926.2
15°	4061.5	4018.9	3887.7	3814.2	3775.7
17.5°	3980.3	3918.4	3756.0	3671.2	3609.3
20°	3887.7	3810.2	3617.1	3520.7	3435.4
22.5°	3787.2	3698.2	3474.0	3342.7	3285.0
25°	3686.8	3562.9	3307.9	3149.6	3091.4
27.5°	3567.0	3435.4	3153.3	2971.7	2882.7
30°	3439.5	3292.4	2983.2	2786.4	2681.8
32.5°	3315.7	3137.7	2821.2	2589.2	2492.4
35°	3176.7	2979.5	2639.6	2396.1	2310.7
37.5°	3041.4	2828.6	2469.4	2202.5	2106.2
40°	2898.3	2666.7	2291.5	2017.2	1916.8
42.5°	2751.5	2504.3	2114.0	1827.8	1731.5
45°	2596.9	2337.9	1932.3	1657.7	1564.9
47.5°	2450.1	2175.9	1758.5	1483.8	1398.9
50°	2287.8	2013.5	1588.4	1321.5	1240.7
52.5°	2129.2	1839.3	1426.0	1171.0	1097.6
55°	1974.6	1673.3	1255.9	1024.2	950.8
57.5°	1816.3	1507.2	1105.3	888.9	827.0
60°	1654.0	1344.8	946.7	749.9	688.0
62.5°	1495.7	1186.5	811.4	626.1	595.3
65°	1333.3	1020.1	672.4	541.2	529.3
67.5°	1178.8	865.5	541.2	475.2	463.7
70°	1016.4	715.1	448.1	409.6	394.0
72.5°	861.9	575.7	374.7	344.0	336.2
75°	710.9	440.3	309.2	282.1	278.4
77.5°	560.5	312.8	243.6	228.0	220.2
80°	421.1	224.3	185.3	170.1	170.1
82.5°	293.6	150.8	127.5	119.7	119.7
85°	166.1	84.9	73.4	73.4	73.4
87.5°	61.9	30.7	30.7	27.0	27.0
90°	0.9	11.8	32.2	30.2	31.2
92.5°	20.3	27.6	28.6	29.5	29.5
95°	48.0	57.2	58.8	58.8	57.2
97.5°	79.8	88.3	92.0	92.0	92.0
100°	116.6	124.2	126.7	126.7	125.8
102.5°	155.3	160.9	164.5	165.5	164.5
105°	197.7	200.3	202.2	203.9	203.9
107.5°	239.7	243.7	243.7	244.3	239.7
110°	280.4	285.7	285.7	285.7	283.1



TEST NUMBER: P920270

CATALOG NUMBER: DFN2DIP-SQ3F0-120D040US935-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	324.4	330.0	329.0	326.4	324.4
115°	367.7	373.1	371.3	370.4	367.7
117.5°	410.8	418.0	413.5	410.8	408.2
120°	454.2	461.3	454.2	454.2	451.2
122.5°	493.5	502.7	498.2	495.5	493.5
125°	534.9	543.1	540.5	537.5	536.6
127.5°	575.3	585.5	581.9	577.9	575.3
130°	613.0	624.9	623.3	621.3	617.7
132.5°	655.4	664.6	665.3	660.6	658.1
135°	691.9	702.1	704.0	703.0	700.4
137.5°	732.6	740.8	742.4	741.7	737.9
140°	768.4	776.6	781.2	781.2	777.6
142.5°	805.2	813.4	816.0	817.0	813.4
145°	840.0	846.5	851.8	852.8	849.2
147.5°	871.2	879.3	883.3	884.9	881.3
150°	903.4	909.0	912.6	915.5	912.6
152.5°	931.9	937.5	942.1	945.7	942.1
155°	960.4	963.1	966.0	970.7	967.7
157.5°	985.2	987.0	988.7	995.3	990.7
160°	1007.1	1009.1	1010.0	1015.6	1011.7
162.5°	1027.4	1027.4	1028.5	1034.7	1030.1
165°	1044.9	1043.9	1043.9	1050.4	1045.9
167.5°	1060.7	1057.6	1057.6	1064.3	1059.6
170°	1072.5	1069.8	1068.8	1075.4	1069.8
172.5°	1080.6	1078.1	1077.0	1083.7	1078.1
175°	1087.3	1084.6	1082.6	1089.2	1083.7
177.5°	1090.9	1088.2	1086.2	1091.8	1086.2
180°	1089.2	1089.2	1089.2	1089.2	1089.2

TEST NUMBER: P920270

CATALOG NUMBER: DFN2DIP-SQ3F0-120D040US935-RLLFLL

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	14.65	15.73	15.37	16.47	17.34	10.61	11.69	11.33	12.43	13.31
	3H	16.34	17.31	17.08	18.05	18.97	11.81	12.78	12.55	13.52	14.44
	4H	16.96	17.87	17.71	18.62	19.55	12.27	13.18	13.02	13.93	14.86
	6H	17.39	18.22	18.16	18.99	19.93	12.60	13.43	13.36	14.20	15.14
	8H	17.52	18.32	18.30	19.10	20.04	12.69	13.49	13.47	14.27	15.21
	12H	17.59	18.35	18.37	19.13	20.09	12.74	13.50	13.52	14.28	15.24
4H	2H	14.70	15.60	15.46	16.36	17.29	11.23	12.14	11.99	12.90	13.82
	3H	16.54	17.30	17.31	18.09	19.03	12.60	13.35	13.37	14.15	15.09
	4H	17.24	17.92	18.03	18.72	19.69	13.15	13.83	13.94	14.63	15.60
	6H	17.76	18.35	18.57	19.17	20.15	13.58	14.17	14.38	14.98	15.96
	8H	17.94	18.49	18.75	19.31	20.29	13.71	14.26	14.51	15.07	16.06
	12H	18.04	18.54	18.87	19.38	20.37	13.78	14.27	14.60	15.11	16.10
8H	4H	17.22	17.78	18.03	18.59	19.58	13.45	14.00	14.25	14.81	15.80
	6H	17.79	18.25	18.63	19.11	20.10	13.96	14.42	14.80	15.28	16.27
	8H	18.01	18.41	18.86	19.27	20.27	14.15	14.56	15.00	15.41	16.42
	12H	18.15	18.51	19.00	19.35	20.42	14.28	14.63	15.12	15.48	16.54
12H	4H	17.19	17.68	18.01	18.52	19.51	13.46	13.96	14.29	14.79	15.79
	6H	17.77	18.17	18.62	19.03	20.03	14.01	14.42	14.86	15.27	16.28
	8H	18.00	18.35	18.85	19.20	20.26	14.23	14.59	15.08	15.43	16.49

END OF REPORT