

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: P919238

Luminaire Tested: DFN2DIP-PN2F0-030D020US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919238
REPORT IS A COMBINATION OF REPORTS P899464 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D020US935-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

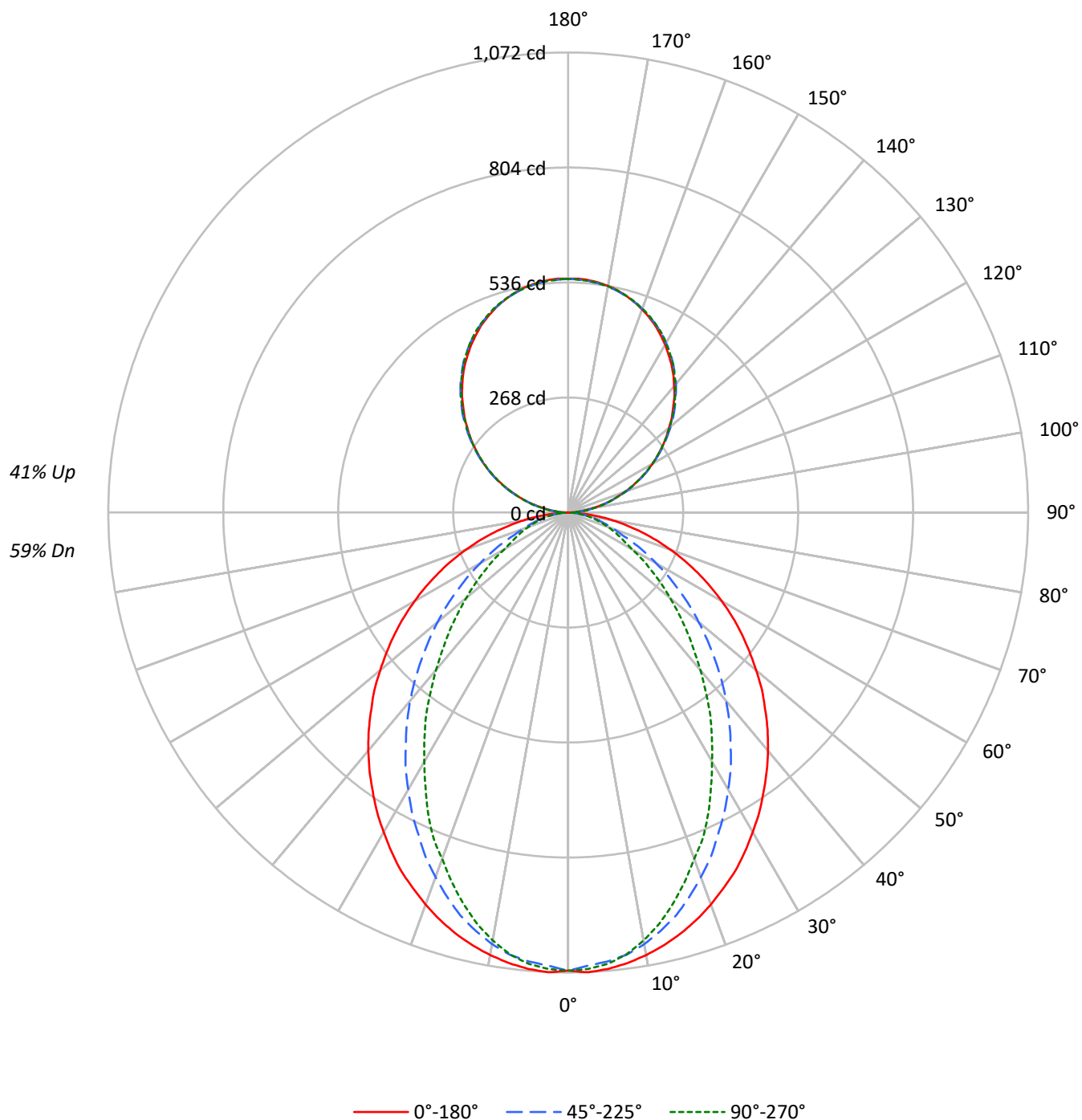
Lumens per Lamp: N/A
Luminaire Lumens: 3719.5 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 43.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P919238

CATALOG NUMBER: DFN2DIP-PN2F0-030D020US935-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P919238

CATALOG NUMBER: DFN2DIP-PN2F0-030D020US935-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	109	109	109	109	102	102	102	102	88	88	88		76	76	76		64
1	100	96	92	89	94	90	87	84	78	76	74		68	66	64		58
2	92	85	79	74	86	79	74	70	69	65	62		60	57	55		52
3	84	75	68	62	78	70	64	59	62	57	53		54	50	47		46
4	77	67	59	53	72	63	56	51	55	50	46		48	44	41		42
5	71	60	52	46	66	56	49	44	50	44	40		44	39	36		38
6	66	54	46	40	61	51	44	39	45	39	35		40	35	32		35
7	61	49	41	36	57	46	39	34	41	35	31		36	32	28		32
8	57	45	37	32	53	42	35	30	38	32	28		33	29	25		29
9	53	41	34	29	50	39	32	27	35	29	25		31	26	23		27
10	50	38	31	26	47	36	29	25	32	27	23		29	24	21		25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2312	2312	2312
5°	2312	2271	2286
10°	2285	2221	2209
15°	2250	2143	2091
20°	2205	2037	1947
25°	2159	1920	1808
30°	2098	1799	1633
35°	2037	1671	1480
40°	1976	1538	1305
45°	1905	1391	1146
50°	1832	1244	991
55°	1754	1087	842
60°	1665	924	690
65°	1562	758	617
70°	1436	604	554
75°	1278	523	497
80°	1052	425	420
85°	688	264	298

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1905 cd/sqm

TEST NUMBER: P919238

CATALOG NUMBER: DFN2DIP-PN2F0-030D020US935-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	2.7
10°-20°	274.7	7.4
20°-30°	385.6	10.4
30°-40°	420.3	11.3
40°-50°	386.3	10.4
50°-60°	303.4	8.2
60°-70°	197.5	5.3
70°-80°	101.7	2.7
80°-90°	27.5	0.7
90°-100°	33.7	0.9
100°-110°	107.1	2.9
110°-120°	183.2	4.9
120°-130°	241.0	6.5
130°-140°	270.5	7.3
140°-150°	265.3	7.1
150°-160°	222.5	6.0
160°-170°	147.6	4.0
170°-180°	51.6	1.4
0°-30°	760.3	20.4
0°-40°	1180.7	31.7
0°-60°	1870.4	50.3
0°-90°	2197.1	59.1
90°-120°	324.0	8.7
90°-150°	1100.8	29.6
90°-180°	1522.0	40.9
0°-180°	3719.5	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°	0	6	16	15	16	4
95°	24	29	29	29	29	27
105°	99	100	101	102	102	104
115°	184	186	186	185	184	182
125°	267	272	270	269	268	239
135°	346	351	352	352	350	267
145°	420	423	426	426	425	262
155°	480	482	483	485	484	221
165°	522	522	522	525	523	147
175°	544	542	541	545	542	52
180°	545	545	545	545	545	

TEST NUMBER: P919238

CATALOG NUMBER: DFN2DIP-PN2F0-030D020US935-RLFL

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°	0.5	5.9	16.1	15.1	15.6
92.5°	10.2	13.8	14.3	14.8	14.8
95°	23.9	28.6	29.4	29.4	28.6
97.5°	39.9	44.2	46.0	46.0	46.0
100°	58.3	62.1	63.4	63.4	62.9
102.5°	77.7	80.4	82.2	82.7	82.2
105°	98.8	100.1	101.2	101.9	101.9
107.5°	119.9	121.8	121.8	122.2	119.9
110°	140.3	142.8	142.8	142.8	141.5

TEST NUMBER: P919238

CATALOG NUMBER: DFN2DIP-PN2F0-030D020US935-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	162.2	165.0	164.5	163.2	162.2
115°	183.9	186.5	185.7	185.2	183.9
117.5°	205.4	209.1	206.7	205.4	204.1
120°	227.0	230.7	227.0	227.0	225.6
122.5°	246.8	251.3	249.1	247.8	246.8
125°	267.4	271.6	270.3	268.8	268.3
127.5°	287.7	292.7	290.9	289.0	287.7
130°	306.5	312.5	311.6	310.6	308.8
132.5°	327.7	332.3	332.6	330.4	329.0
135°	345.9	351.0	352.0	351.5	350.2
137.5°	366.3	370.4	371.3	370.9	368.9
140°	384.2	388.3	390.6	390.6	388.8
142.5°	402.6	406.6	408.0	408.5	406.6
145°	420.0	423.3	425.9	426.4	424.6
147.5°	435.6	439.7	441.7	442.5	440.7
150°	451.7	454.4	456.2	457.7	456.2
152.5°	466.0	468.7	471.1	472.9	471.1
155°	480.3	481.6	483.0	485.3	483.9
157.5°	492.6	493.5	494.4	497.7	495.3
160°	503.6	504.5	505.1	507.8	505.8
162.5°	513.8	513.8	514.2	517.4	515.0
165°	522.5	521.9	521.9	525.2	523.0
167.5°	530.3	528.8	528.8	532.1	529.9
170°	536.2	534.9	534.4	537.7	534.9
172.5°	540.4	539.0	538.6	541.8	539.0
175°	543.6	542.3	541.3	544.6	541.8
177.5°	545.4	544.2	543.1	545.9	543.1
180°	544.6	544.6	544.6	544.6	544.6

TEST NUMBER: P919238

CATALOG NUMBER: DFN2DIP-PN2F0-030D020US935-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	10.75	11.66	11.63	12.56	13.70	6.72	7.63	7.60	8.52	9.66
	3H	12.41	13.23	13.31	14.13	15.30	7.89	8.71	8.79	9.61	10.78
	4H	13.01	13.78	13.92	14.69	15.87	8.34	9.10	9.25	10.02	11.19
	6H	13.42	14.13	14.34	15.05	16.23	8.65	9.35	9.57	10.27	11.46
	8H	13.54	14.21	14.47	15.15	16.33	8.73	9.40	9.66	10.34	11.53
	12H	13.60	14.24	14.53	15.17	16.38	8.77	9.41	9.70	10.34	11.55
4H	2H	10.77	11.54	11.69	12.45	13.63	7.31	8.08	8.23	8.99	10.17
	3H	12.59	13.22	13.51	14.17	15.36	8.65	9.29	9.57	10.23	11.42
	4H	13.26	13.85	14.20	14.79	16.00	9.18	9.77	10.12	10.71	11.92
	6H	13.76	14.27	14.71	15.23	16.44	9.59	10.09	10.54	11.05	12.27
	8H	13.93	14.40	14.88	15.35	16.58	9.71	10.18	10.66	11.13	12.36
	12H	14.02	14.44	14.99	15.41	16.65	9.77	10.19	10.74	11.16	12.40
8H	4H	13.23	13.70	14.19	14.66	15.89	9.46	9.93	10.41	10.88	12.11
	6H	13.78	14.17	14.76	15.17	16.39	9.96	10.34	10.93	11.34	12.57
	8H	13.98	14.32	14.97	15.31	16.56	10.13	10.48	11.12	11.46	12.71
	12H	14.11	14.41	15.10	15.39	16.69	10.24	10.54	11.23	11.52	12.82
12H	4H	13.19	13.61	14.16	14.58	15.82	9.46	9.88	10.43	10.86	12.09
	6H	13.75	14.10	14.74	15.08	16.33	10.00	10.34	10.99	11.33	12.57
	8H	13.96	14.26	14.95	15.25	16.54	10.20	10.50	11.19	11.48	12.77