

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: P905604

Luminaire Tested: DFN2DIP-PN2F0-030D040US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905604
REPORT IS A COMBINATION OF REPORTS P899483 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D040US835-FLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

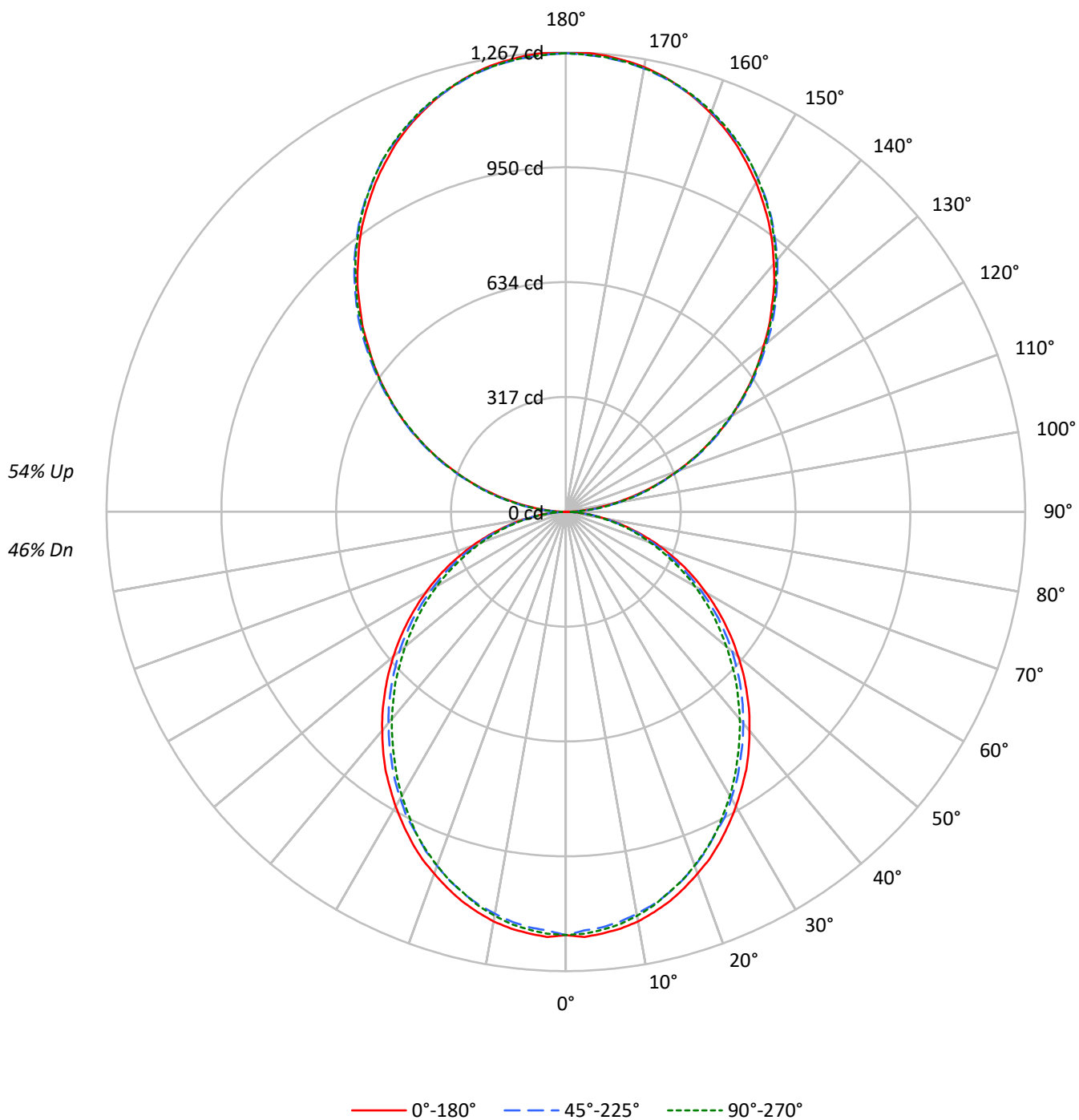
Lumens per Lamp: N/A
Luminaire Lumens: 6510.0 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 58.8
Input Voltage (V): 120
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: P905604

CATALOG NUMBER: DFN2DIP-PN2F0-030D040US835-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P905604

CATALOG NUMBER: DFN2DIP-PN2F0-030D040US835-FLLFL

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	97	97	97	97	81	81	81	66	66	66	52	52	52
1	97	93	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44
2	88	81	75	70	81	74	69	65	62	58	55	51	48	46	41	39	37
3	80	71	64	58	73	65	59	54	55	50	46	45	42	39	36	34	32
4	74	63	55	49	67	58	51	46	49	43	39	40	36	33	32	29	27
5	67	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24
6	62	50	42	36	57	46	39	34	39	34	30	33	28	25	26	23	21
7	57	45	37	32	53	42	35	30	36	30	26	30	25	22	24	21	19
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17
9	50	37	30	25	45	35	28	24	30	24	21	25	21	18	20	17	15
10	46	34	27	22	42	32	25	21	27	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2528	2528	2528
5°	2528	2488	2506
10°	2504	2449	2468
15°	2463	2403	2412
20°	2409	2342	2354
25°	2355	2269	2287
30°	2289	2202	2204
35°	2226	2123	2116
40°	2149	2043	2032
45°	2072	1962	1946
50°	1988	1878	1847
55°	1899	1780	1754
60°	1799	1665	1649
65°	1689	1545	1524
70°	1548	1398	1389
75°	1356	1223	1259
80°	1122	998	1022
85°	762	631	640

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2072 cd/sqm

TEST NUMBER: P905604

CATALOG NUMBER: DFN2DIP-PN2F0-030D040US835-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.9	1.7
10°-20°	309.1	4.7
20°-30°	454.3	7.0
30°-40°	527.6	8.1
40°-50°	527.0	8.1
50°-60°	459.5	7.1
60°-70°	339.7	5.2
70°-80°	192.2	3.0
80°-90°	54.3	0.8
90°-100°	78.3	1.2
100°-110°	248.7	3.8
110°-120°	425.6	6.5
120°-130°	559.8	8.6
130°-140°	628.3	9.7
140°-150°	616.2	9.5
150°-160°	516.9	7.9
160°-170°	342.8	5.3
170°-180°	119.8	1.8
0°-30°	873.3	13.4
0°-40°	1400.9	21.5
0°-60°	2387.4	36.7
0°-90°	2973.6	45.7
90°-120°	752.7	11.6
90°-150°	2556.9	39.3
90°-180°	3536.0	54.3
0°-180°	6510.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1167	1167	1167	1167	1167	
5°	1167	1163	1150	1160	1157	111
15°	1111	1105	1090	1094	1089	313
25°	1006	997	978	980	978	463
35°	868	856	838	832	826	542
45°	706	698	681	669	664	545
55°	534	528	514	501	495	478
65°	360	354	342	332	327	356
75°	188	186	181	174	176	201
85°	46	45	44	40	39	51
90°	1	14	37	35	36	6
95°	56	66	68	68	66	62
105°	230	233	235	237	237	242
115°	427	433	431	430	427	422
125°	621	631	628	624	623	555
135°	804	815	818	816	814	621
145°	976	983	989	990	986	610
155°	1116	1119	1122	1127	1124	513
165°	1214	1212	1212	1220	1215	342
175°	1263	1260	1257	1265	1259	120
180°	1265	1265	1265	1265	1265	

TEST NUMBER: P905604

CATALOG NUMBER: DFN2DIP-PN2F0-030D040US835-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1167.3	1167.3	1167.3	1167.3	1167.3
2.5°	1174.1	1168.5	1156.1	1167.3	1165.2
5°	1167.3	1162.9	1150.5	1159.5	1157.3
7.5°	1159.5	1152.8	1140.4	1149.5	1147.2
10°	1147.2	1139.3	1125.9	1134.8	1131.5
12.5°	1130.3	1123.6	1110.2	1115.7	1113.5
15°	1111.2	1104.6	1089.9	1094.4	1088.8
17.5°	1087.6	1081.0	1066.3	1071.9	1066.3
20°	1061.8	1055.1	1039.4	1042.7	1038.3
22.5°	1036.1	1026.0	1011.3	1011.3	1009.0
25°	1005.7	996.8	977.7	979.9	977.7
27.5°	972.0	964.1	949.6	946.3	940.7
30°	938.4	929.4	912.6	909.2	904.7
32.5°	902.5	895.8	877.8	871.0	866.5
35°	867.7	856.5	838.5	831.7	826.1
37.5°	828.4	818.3	800.3	792.4	786.8
40°	788.0	779.0	761.0	751.0	746.5
42.5°	748.7	739.7	721.8	710.5	703.8
45°	706.1	698.2	681.3	669.0	664.5
47.5°	664.5	656.7	638.7	626.3	619.6
50°	620.7	615.1	599.4	583.7	578.1
52.5°	578.1	570.2	555.7	543.3	535.4
55°	534.4	527.6	514.1	500.7	495.1
57.5°	490.5	484.9	470.3	456.8	452.3
60°	446.7	442.3	426.6	414.2	410.9
62.5°	404.1	396.2	385.0	373.8	369.3
65°	360.4	353.6	342.4	332.3	326.7
67.5°	315.5	309.8	299.7	291.9	287.4
70°	273.9	269.4	259.3	251.4	247.0
72.5°	231.3	226.7	221.1	213.3	210.0
75°	188.5	186.4	180.7	174.0	176.3
77.5°	150.4	145.9	143.6	140.3	137.0
80°	112.3	111.1	108.8	105.5	103.3
82.5°	76.3	76.3	75.3	70.7	70.7
85°	46.0	44.9	43.8	40.4	39.3
87.5°	20.2	18.0	15.7	12.4	11.2
90°	1.1	13.7	37.4	35.1	36.2
92.5°	23.6	32.0	33.2	34.3	34.3
95°	55.7	66.4	68.3	68.3	66.4
97.5°	92.7	102.6	106.8	106.8	106.8
100°	135.4	144.2	147.2	147.2	146.1
102.5°	180.4	186.9	191.1	192.2	191.1
105°	229.6	232.6	234.9	236.8	236.8
107.5°	278.4	283.0	283.0	283.7	278.4
110°	325.7	331.8	331.8	331.8	328.8

TEST NUMBER: P905604

CATALOG NUMBER: DFN2DIP-PN2F0-030D040US835-FLLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	376.8	383.3	382.1	379.1	376.8
115°	427.1	433.3	431.3	430.2	427.1
117.5°	477.1	485.5	480.2	477.1	474.1
120°	527.5	535.8	527.5	527.5	524.0
122.5°	573.2	583.9	578.6	575.5	573.2
125°	621.3	630.8	627.8	624.3	623.2
127.5°	668.2	680.0	675.8	671.2	668.2
130°	712.0	725.8	723.9	721.6	717.4
132.5°	761.2	771.9	772.7	767.3	764.3
135°	803.6	815.4	817.7	816.5	813.5
137.5°	850.9	860.4	862.3	861.5	857.0
140°	892.4	902.0	907.3	907.3	903.1
142.5°	935.2	944.7	947.7	948.9	944.7
145°	975.6	983.2	989.3	990.5	986.3
147.5°	1011.8	1021.3	1025.9	1027.8	1023.6
150°	1049.2	1055.7	1059.9	1063.3	1059.9
152.5°	1082.4	1088.8	1094.2	1098.4	1094.2
155°	1115.5	1118.6	1122.0	1127.4	1123.9
157.5°	1144.2	1146.4	1148.3	1156.0	1150.6
160°	1169.7	1172.0	1173.1	1179.6	1175.0
162.5°	1193.3	1193.3	1194.5	1201.7	1196.4
165°	1213.6	1212.4	1212.4	1220.0	1214.7
167.5°	1231.9	1228.4	1228.4	1236.1	1230.7
170°	1245.6	1242.5	1241.4	1249.0	1242.5
172.5°	1255.1	1252.1	1250.9	1258.6	1252.1
175°	1262.8	1259.7	1257.4	1265.0	1258.6
177.5°	1267.0	1263.9	1261.6	1268.1	1261.6
180°	1265.0	1265.0	1265.0	1265.0	1265.0

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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	9.96	10.79	10.96	11.79	13.12	9.52	10.35	10.52	11.35	12.69
	3H	11.60	12.34	12.60	13.35	14.71	11.12	11.86	12.12	12.87	14.22
	4H	12.17	12.87	13.19	13.89	15.25	11.69	12.39	12.71	13.41	14.77
	6H	12.55	13.20	13.58	14.22	15.59	12.07	12.71	13.10	13.73	15.11
	8H	12.65	13.26	13.68	14.30	15.67	12.16	12.78	13.20	13.82	15.18
	12H	12.69	13.27	13.73	14.31	15.70	12.20	12.78	13.23	13.81	15.21
4H	2H	10.41	11.11	11.43	12.13	13.49	10.06	10.76	11.08	11.78	13.14
	3H	12.25	12.83	13.28	13.88	15.25	11.85	12.43	12.88	13.48	14.85
	4H	12.94	13.48	13.98	14.52	15.91	12.53	13.07	13.57	14.10	15.50
	6H	13.44	13.90	14.49	14.96	16.35	13.02	13.48	14.07	14.54	15.93
	8H	13.58	14.01	14.63	15.06	16.47	13.15	13.58	14.20	14.64	16.04
	12H	13.64	14.03	14.71	15.10	16.51	13.21	13.59	14.27	14.66	16.07
8H	4H	13.13	13.56	14.18	14.61	16.02	12.76	13.19	13.81	14.24	15.65
	6H	13.73	14.09	14.81	15.18	16.59	13.36	13.71	14.43	14.81	16.21
	8H	13.94	14.25	15.02	15.33	16.75	13.56	13.87	14.64	14.95	16.37
	12H	14.05	14.33	15.14	15.40	16.87	13.66	13.93	14.74	15.01	16.47
12H	4H	13.11	13.50	14.18	14.56	15.98	12.75	13.14	13.82	14.20	15.62
	6H	13.76	14.07	14.84	15.15	16.57	13.39	13.71	14.48	14.79	16.21
	8H	13.98	14.26	15.07	15.33	16.79	13.61	13.89	14.70	14.96	16.43