

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: P907302

Luminaire Tested: DFN2DIP-TR4F0-040D120US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907302
REPORT IS A COMBINATION OF REPORTS P900513 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-040D120US835-FLLFLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

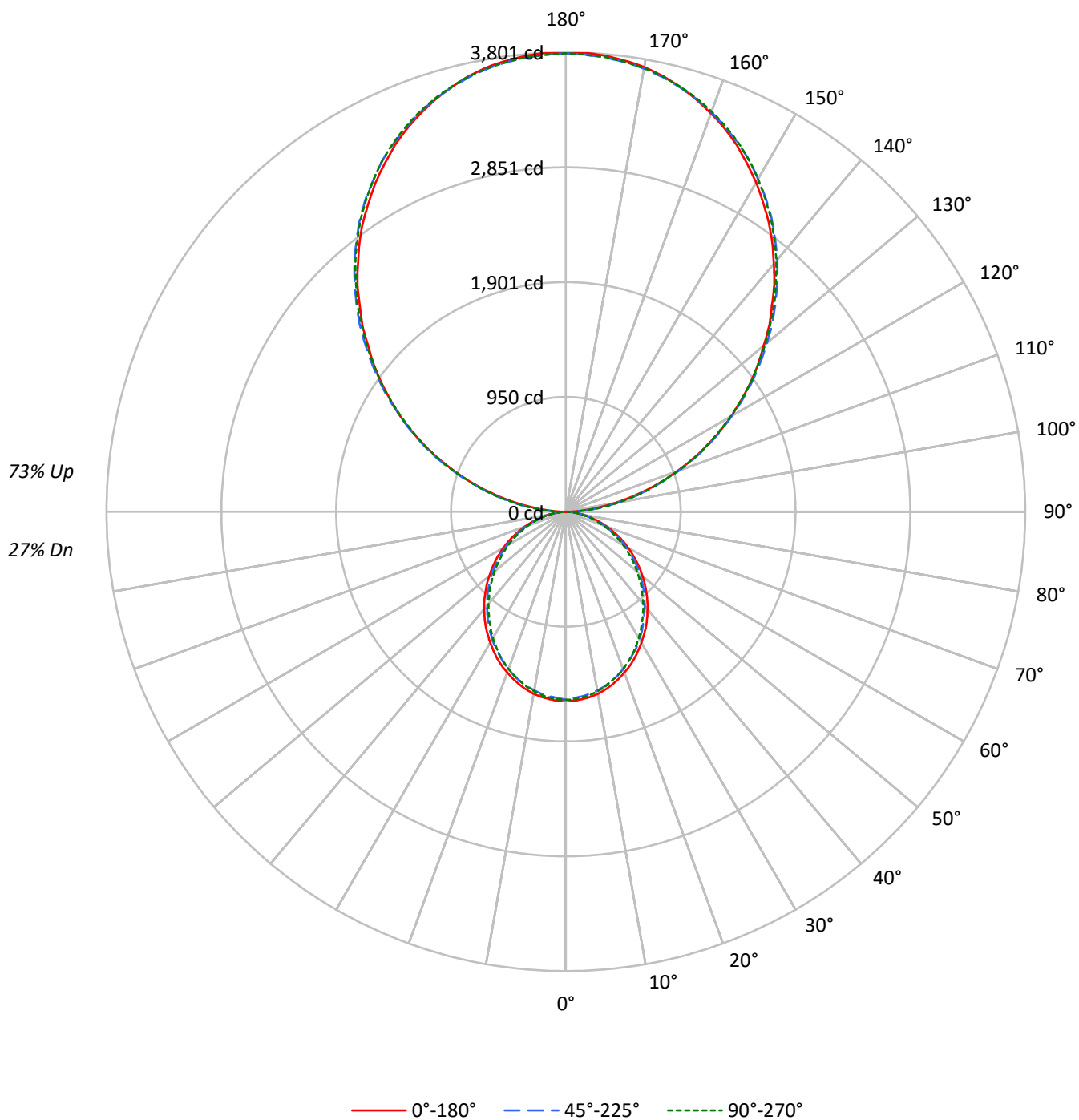
Lumens per Lamp: N/A
Luminaire Lumens: 14580.0 lumens
Efficiency: N/A
Efficacy: 118.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 123.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P907302

CATALOG NUMBER: DFN2DIP-TR4F0-040D120US835-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P907302

CATALOG NUMBER: DFN2DIP-TR4F0-040D120US835-FLLFLL

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	102	102	102	102	91	91	91	91	71	71	71	52	52	52	35	35	35
1	93	88	85	81	83	79	76	73	62	60	58	46	44	43	31	30	30
2	84	77	71	66	75	69	64	60	54	51	48	40	38	36	27	26	25
3	77	68	61	55	68	61	55	50	48	44	40	35	33	30	24	23	21
4	70	60	52	47	62	54	47	42	42	38	34	32	29	26	22	20	18
5	64	53	45	40	57	48	41	36	38	33	29	28	25	22	19	17	16
6	59	48	40	34	53	43	36	31	34	29	25	25	22	20	18	16	14
7	55	43	35	30	49	39	32	27	31	26	22	23	20	17	16	14	12
8	51	39	31	26	45	35	28	24	28	23	20	21	18	15	15	13	11
9	47	35	28	23	42	32	26	21	25	21	17	19	16	14	14	11	10
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	13	10	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1236	1236	1236
5°	1238	1219	1227
10°	1228	1203	1211
15°	1210	1183	1185
20°	1186	1155	1158
25°	1162	1123	1127
30°	1131	1092	1088
35°	1102	1056	1047
40°	1067	1019	1008
45°	1032	983	967
50°	993	944	921
55°	952	900	878
60°	907	847	828
65°	857	793	771
70°	793	726	708
75°	705	646	650
80°	599	545	540
85°	433	370	358

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2958 cd/sqm

TEST NUMBER: P907302

CATALOG NUMBER: DFN2DIP-TR4F0-040D120US835-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.5	1.0
10°-20°	412.2	2.8
20°-30°	605.7	4.2
30°-40°	703.5	4.8
40°-50°	702.6	4.8
50°-60°	612.7	4.2
60°-70°	452.9	3.1
70°-80°	256.2	1.8
80°-90°	78.4	0.5
90°-100°	234.8	1.6
100°-110°	746.2	5.1
110°-120°	1276.9	8.8
120°-130°	1679.4	11.5
130°-140°	1885.0	12.9
140°-150°	1848.5	12.7
150°-160°	1550.6	10.6
160°-170°	1028.3	7.1
170°-180°	359.4	2.5
0°-30°	1164.4	8.0
0°-40°	1867.9	12.8
0°-60°	3183.2	21.8
0°-90°	3970.8	27.2
90°-120°	2257.9	15.5
90°-150°	7670.8	52.6
90°-180°	10609.0	72.8
0°-180°	14580.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1556	1556	1556	1556	1556	
5°	1556	1550	1534	1546	1543	148
15°	1482	1473	1453	1459	1452	417
25°	1341	1329	1304	1306	1304	617
35°	1157	1142	1118	1109	1102	722
45°	941	931	908	892	886	727
55°	712	703	686	668	660	637
65°	480	471	456	443	436	475
75°	251	248	241	232	235	268
85°	61	60	58	54	52	68
90°	3	41	112	105	109	14
95°	167	199	205	205	199	186
105°	689	698	705	710	710	727
115°	1281	1300	1294	1291	1281	1267
125°	1864	1892	1883	1873	1870	1666
135°	2411	2446	2453	2450	2440	1863
145°	2927	2950	2968	2971	2959	1829
155°	3347	3356	3366	3382	3372	1540
165°	3641	3637	3637	3660	3644	1027
175°	3788	3779	3772	3795	3776	360
180°	3795	3795	3795	3795	3795	

TEST NUMBER: P907302

CATALOG NUMBER: DFN2DIP-TR4F0-040D120US835-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1556.4	1556.4	1556.4	1556.4	1556.4
2.5°	1565.5	1558.0	1541.5	1556.4	1553.6
5°	1556.4	1550.5	1534.0	1545.9	1543.1
7.5°	1545.9	1537.0	1520.5	1532.6	1529.6
10°	1529.6	1519.1	1501.2	1513.1	1508.6
12.5°	1507.0	1498.1	1480.2	1487.7	1484.6
15°	1481.6	1472.7	1453.2	1459.2	1451.8
17.5°	1450.2	1441.3	1421.8	1429.2	1421.8
20°	1415.7	1406.8	1385.9	1390.3	1384.5
22.5°	1381.4	1367.9	1348.4	1348.4	1345.4
25°	1340.9	1329.0	1303.6	1306.5	1303.6
27.5°	1296.0	1285.5	1266.2	1261.7	1254.3
30°	1251.2	1239.2	1216.8	1212.3	1206.3
32.5°	1203.3	1194.4	1170.4	1161.4	1155.3
35°	1156.9	1142.0	1118.0	1109.0	1101.5
37.5°	1104.5	1091.0	1067.0	1056.6	1049.1
40°	1050.7	1038.6	1014.6	1001.3	995.3
42.5°	998.3	986.2	962.4	947.3	938.4
45°	941.4	931.0	908.4	892.1	886.0
47.5°	886.0	875.5	851.6	835.1	826.2
50°	827.6	820.1	799.2	778.2	770.7
52.5°	770.7	760.3	740.9	724.4	713.9
55°	712.5	703.4	685.5	667.5	660.1
57.5°	654.0	646.6	627.0	609.1	603.1
60°	595.6	589.7	568.8	552.3	547.8
62.5°	538.8	528.3	513.4	498.4	492.4
65°	480.5	471.4	456.5	443.0	435.6
67.5°	420.6	413.0	399.7	389.2	383.2
70°	365.2	359.2	345.7	335.2	329.3
72.5°	308.4	302.3	294.9	284.4	279.9
75°	251.4	248.5	240.9	232.0	235.0
77.5°	200.5	194.5	191.5	187.0	182.6
80°	149.7	148.1	145.1	140.7	137.7
82.5°	101.8	101.8	100.4	94.3	94.3
85°	61.3	59.9	58.4	53.8	52.4
87.5°	27.0	24.0	21.0	16.5	14.9
90°	3.4	41.2	112.1	105.3	108.7
92.5°	70.9	96.1	99.5	103.0	103.0
95°	167.0	199.1	204.8	204.8	199.1
97.5°	278.0	307.8	320.4	320.4	320.4
100°	406.2	432.5	441.6	441.6	438.2
102.5°	541.2	560.6	573.2	576.7	573.2
105°	688.8	697.9	704.8	710.5	710.5
107.5°	835.2	849.0	849.0	851.2	835.2
110°	977.1	995.4	995.4	995.4	986.3

TEST NUMBER: P907302

CATALOG NUMBER: DFN2DIP-TR4F0-040D120US835-FLLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1130.4	1149.9	1146.4	1137.3	1130.4
115°	1281.4	1299.8	1294.0	1290.6	1281.4
117.5°	1431.3	1456.5	1440.5	1431.3	1422.2
120°	1582.4	1607.5	1582.4	1582.4	1572.1
122.5°	1719.7	1751.7	1735.7	1726.5	1719.7
125°	1863.8	1892.4	1883.3	1873.0	1869.5
127.5°	2004.6	2040.0	2027.4	2013.7	2004.6
130°	2136.1	2177.3	2171.6	2164.7	2152.1
132.5°	2283.7	2315.8	2318.0	2302.0	2292.9
135°	2410.7	2446.2	2453.1	2449.6	2440.5
137.5°	2552.6	2581.2	2586.9	2584.6	2570.9
140°	2677.3	2705.9	2721.9	2721.9	2709.3
142.5°	2805.5	2834.1	2843.2	2846.6	2834.1
145°	2926.7	2949.6	2967.9	2971.4	2958.8
147.5°	3035.4	3064.0	3077.8	3083.5	3070.9
150°	3147.6	3167.0	3179.6	3189.9	3179.6
152.5°	3247.1	3266.5	3282.6	3295.2	3282.6
155°	3346.6	3355.8	3366.1	3382.1	3371.8
157.5°	3432.5	3439.3	3445.0	3467.9	3451.9
160°	3509.1	3516.0	3519.4	3538.9	3525.1
162.5°	3580.0	3580.0	3583.5	3605.2	3589.2
165°	3640.7	3637.3	3637.3	3660.1	3644.1
167.5°	3695.6	3685.3	3685.3	3708.2	3692.2
170°	3736.8	3727.6	3724.2	3747.1	3727.6
172.5°	3765.4	3756.2	3752.8	3775.7	3756.2
175°	3788.3	3779.1	3772.3	3795.1	3775.7
177.5°	3800.9	3791.7	3784.8	3804.3	3784.8
180°	3795.1	3795.1	3795.1	3795.1	3795.1

TEST NUMBER: P907302

CATALOG NUMBER: DFN2DIP-TR4F0-040D120US835-FLLFLL

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	5.39	6.08	6.52	7.20	8.77	4.96	5.65	6.09	6.77	8.34
	3H	7.04	7.66	8.18	8.79	10.37	6.57	7.18	7.71	8.32	9.89
	4H	7.62	8.21	8.77	9.34	10.92	7.15	7.73	8.29	8.86	10.45
	6H	8.01	8.55	9.17	9.68	11.28	7.54	8.07	8.69	9.21	10.80
	8H	8.11	8.62	9.27	9.77	11.36	7.64	8.15	8.79	9.30	10.88
	12H	8.15	8.64	9.31	9.78	11.39	7.67	8.16	8.83	9.30	10.91
4H	2H	5.83	6.42	6.99	7.55	9.13	5.49	6.08	6.65	7.21	8.79
	3H	7.68	8.17	8.84	9.33	10.93	7.29	7.78	8.45	8.94	10.53
	4H	8.39	8.84	9.55	9.99	11.60	7.99	8.44	9.15	9.58	11.20
	6H	8.90	9.28	10.06	10.45	12.05	8.49	8.87	9.65	10.04	11.65
	8H	9.04	9.40	10.21	10.56	12.18	8.63	8.99	9.80	10.15	11.77
	12H	9.11	9.43	10.29	10.60	12.23	8.68	9.01	9.87	10.18	11.81
8H	4H	8.57	8.93	9.74	10.09	11.71	8.21	8.57	9.38	9.73	11.35
	6H	9.20	9.49	10.38	10.70	12.31	8.83	9.13	10.02	10.33	11.95
	8H	9.42	9.67	10.61	10.85	12.49	9.05	9.31	10.24	10.49	12.13
	12H	9.54	9.77	10.74	10.94	12.62	9.16	9.38	10.35	10.56	12.23
12H	4H	8.55	8.88	9.73	10.05	11.67	8.20	8.52	9.38	9.70	11.32
	6H	9.23	9.48	10.42	10.66	12.30	8.87	9.13	10.07	10.31	11.95
	8H	9.46	9.69	10.66	10.86	12.54	9.10	9.33	10.30	10.51	12.18

END OF REPORT