

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: P907344

Luminaire Tested: DFN2DIP-TR4F0-060D040US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907344
REPORT IS A COMBINATION OF REPORTS P900374 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-060D040US835-RLLFLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

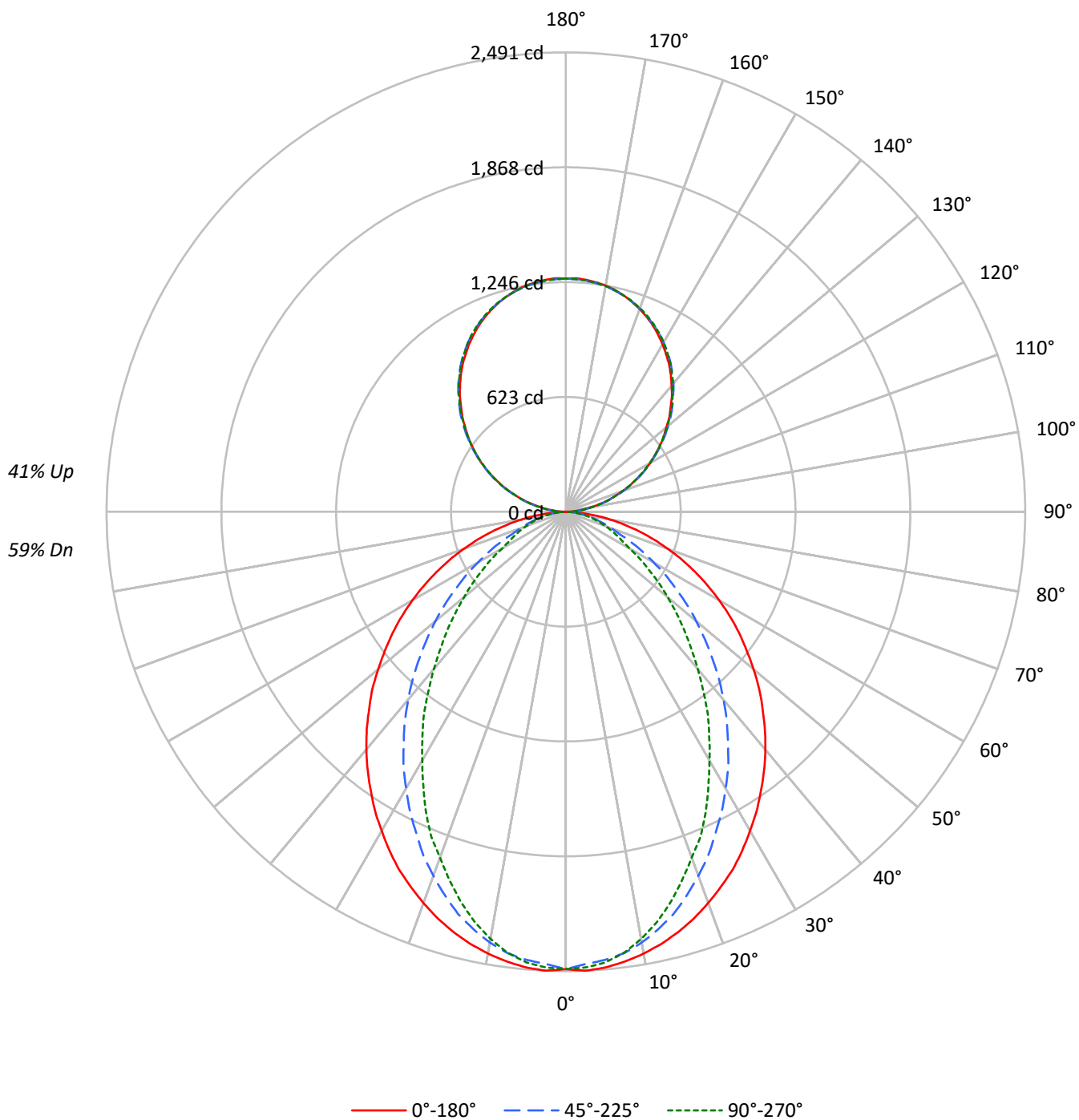
Lumens per Lamp: N/A
Luminaire Lumens: 8640.0 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 83.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P907344

CATALOG NUMBER: DFN2DIP-TR4F0-060D040US835-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P907344

CATALOG NUMBER: DFN2DIP-TR4F0-060D040US835-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°	1970	1970	1970
5°	1973	1939	1951
10°	1954	1901	1888
15°	1927	1838	1789
20°	1891	1751	1669
25°	1855	1654	1553
30°	1806	1555	1405
35°	1758	1448	1275
40°	1709	1337	1127
45°	1653	1214	992
50°	1594	1090	861
55°	1533	957	734
60°	1462	819	604
65°	1381	678	544
70°	1282	547	492
75°	1158	482	448
80°	978	404	388
85°	682	270	291

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1653 cd/sqm

TEST NUMBER: P907344

CATALOG NUMBER: DFN2DIP-TR4F0-060D040US835-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.4	2.7
10°-20°	638.0	7.4
20°-30°	895.7	10.4
30°-40°	976.4	11.3
40°-50°	897.4	10.4
50°-60°	704.8	8.2
60°-70°	458.8	5.3
70°-80°	236.1	2.7
80°-90°	63.9	0.7
90°-100°	78.3	0.9
100°-110°	248.7	2.9
110°-120°	425.6	4.9
120°-130°	559.8	6.5
130°-140°	628.3	7.3
140°-150°	616.2	7.1
150°-160°	516.9	6.0
160°-170°	342.8	4.0
170°-180°	119.8	1.4
0°-30°	1766.2	20.4
0°-40°	2742.6	31.7
0°-60°	4344.8	50.3
0°-90°	5103.6	59.1
90°-120°	752.7	8.7
90°-150°	2556.9	29.6
90°-180°	3536.0	40.9
0°-180°	8640.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2480	2480	2480	2480	2480	
5°	2480	2469	2439	2460	2453	235
15°	2359	2334	2258	2215	2193	665
25°	2141	2069	1921	1829	1795	985
35°	1845	1730	1533	1391	1342	1155
45°	1508	1358	1122	963	909	1165
55°	1147	972	729	595	552	1025
65°	774	592	390	314	307	768
75°	413	256	180	164	162	437
85°	96	49	43	43	43	111
90°	1	14	37	35	36	8
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: P907344

CATALOG NUMBER: DFN2DIP-TR4F0-060D040US835-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2479.8	2479.8	2479.8	2479.8	2479.8
2.5°	2491.0	2479.8	2455.0	2477.6	2473.1
5°	2479.8	2468.6	2439.3	2459.6	2452.9
7.5°	2459.6	2446.2	2414.8	2423.6	2412.4
10°	2432.6	2416.9	2372.2	2365.3	2351.9
12.5°	2399.1	2378.8	2318.1	2304.8	2280.0
15°	2358.6	2333.8	2257.6	2215.0	2192.6
17.5°	2311.5	2275.5	2181.2	2131.9	2096.0
20°	2257.6	2212.6	2100.5	2044.5	1995.0
22.5°	2199.3	2147.6	2017.4	1941.2	1907.6
25°	2141.0	2069.1	1921.0	1829.1	1795.3
27.5°	2071.5	1995.0	1831.2	1725.7	1674.1
30°	1997.4	1911.9	1732.4	1618.1	1557.4
32.5°	1925.5	1822.2	1638.4	1503.6	1447.4
35°	1844.8	1730.3	1532.9	1391.4	1341.9
37.5°	1766.2	1642.6	1434.1	1279.1	1223.1
40°	1683.1	1548.6	1330.7	1171.4	1113.1
42.5°	1597.9	1454.3	1227.6	1061.4	1005.5
45°	1508.1	1357.6	1122.2	962.6	908.8
47.5°	1422.9	1263.6	1021.2	861.7	812.4
50°	1328.6	1169.3	922.4	767.4	720.5
52.5°	1236.4	1068.1	828.1	680.0	637.4
55°	1146.7	971.7	729.3	594.8	552.1
57.5°	1054.8	875.2	641.9	516.2	480.2
60°	960.5	781.0	549.8	435.5	399.5
62.5°	868.6	689.1	471.2	363.6	345.7
65°	774.3	592.4	390.5	314.3	307.4
67.5°	684.5	502.6	314.3	276.0	269.3
70°	590.2	415.2	260.2	237.9	228.8
72.5°	500.5	334.3	217.6	199.8	195.2
75°	412.9	255.7	179.5	163.8	161.7
77.5°	325.5	181.7	141.4	132.4	127.9
80°	244.5	130.2	107.6	98.8	98.8
82.5°	170.5	87.6	74.0	69.5	69.5
85°	96.4	49.3	42.6	42.6	42.6
87.5°	36.0	17.9	17.9	15.7	15.7
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: P907344

CATALOG NUMBER: DFN2DIP-TR4F0-060D040US835-RLLFLL

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

TEST NUMBER: P907344

CATALOG NUMBER: DFN2DIP-TR4F0-060D040US835-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	10.30	11.21	11.19	12.11	13.25	6.28	7.19	7.16	8.09	9.22
	3H	11.99	12.80	12.88	13.71	14.87	7.47	8.29	8.37	9.19	10.36
	4H	12.60	13.37	13.51	14.28	15.45	7.93	8.70	8.84	9.61	10.78
	6H	13.02	13.73	13.95	14.65	15.84	8.25	8.96	9.18	9.88	11.07
	8H	13.15	13.83	14.08	14.76	15.95	8.35	9.02	9.28	9.96	11.14
	12H	13.22	13.86	14.15	14.79	16.00	8.39	9.03	9.33	9.96	11.17
4H	2H	10.33	11.10	11.25	12.01	13.19	6.88	7.65	7.80	8.56	9.74
	3H	12.17	12.81	13.09	13.75	14.94	8.24	8.88	9.17	9.82	11.01
	4H	12.86	13.44	13.80	14.38	15.60	8.79	9.37	9.73	10.31	11.53
	6H	13.38	13.88	14.33	14.85	16.06	9.22	9.72	10.17	10.68	11.90
	8H	13.56	14.03	14.51	14.98	16.21	9.35	9.82	10.30	10.77	12.00
	12H	13.66	14.08	14.63	15.05	16.29	9.42	9.84	10.39	10.81	12.05
8H	4H	12.84	13.30	13.79	14.26	15.49	9.08	9.55	10.03	10.50	11.73
	6H	13.41	13.79	14.38	14.79	16.02	9.60	9.99	10.58	10.99	12.21
	8H	13.62	13.96	14.61	14.95	16.20	9.79	10.13	10.78	11.12	12.37
	12H	13.76	14.06	14.75	15.05	16.34	9.92	10.22	10.90	11.20	12.49
12H	4H	12.79	13.21	13.76	14.19	15.42	9.09	9.51	10.06	10.48	11.72
	6H	13.38	13.72	14.37	14.71	15.96	9.65	9.99	10.64	10.98	12.22
	8H	13.61	13.91	14.59	14.89	16.18	9.86	10.17	10.85	11.15	12.44

END OF REPORT