

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: P926170

Luminaire Tested: DFN2DIP-TR2F0-060D030US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926170
REPORT IS A COMBINATION OF REPORTS P900240 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-060D030US950-RLLFLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

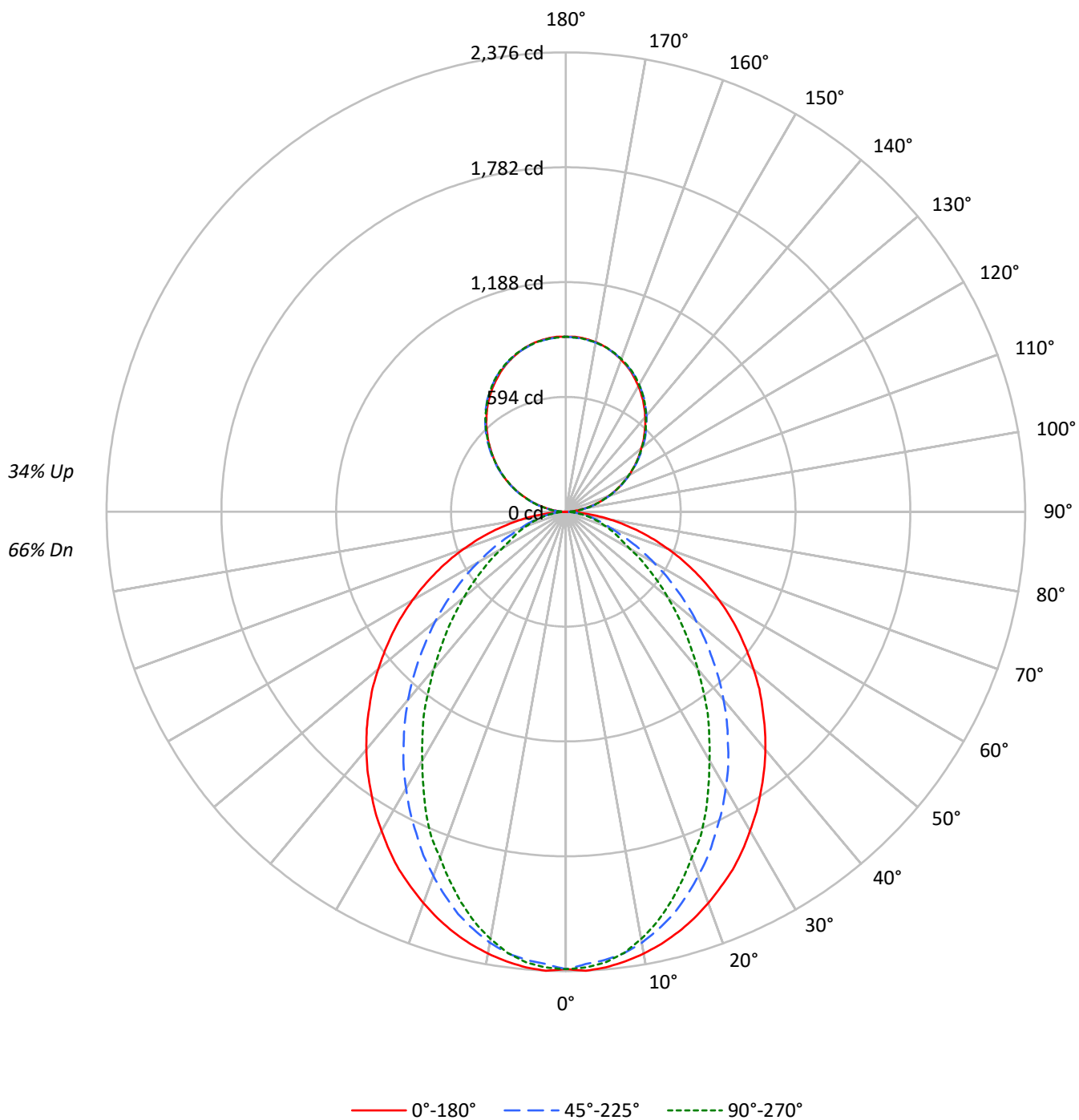
Lumens per Lamp: N/A
Luminaire Lumens: 7398.2 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 81.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
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: P926170

CATALOG NUMBER: DFN2DIP-TR2F0-060D030US950-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P926170

CATALOG NUMBER: DFN2DIP-TR2F0-060D030US950-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	30	10
RCR																	
0	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71
1	102	98	94	91	96	92	89	86	82	79	77	72	70	69	63	62	61
2	93	86	80	75	88	81	76	72	72	68	65	64	61	58	57	54	52
3	86	76	69	63	80	72	66	61	65	59	55	57	53	50	51	48	45
4	79	68	60	54	74	65	58	52	58	52	48	52	47	44	46	42	40
5	73	61	53	47	68	58	51	45	52	46	42	47	42	38	42	38	35
6	67	55	47	41	63	52	45	40	47	41	37	42	38	34	38	34	31
7	62	50	42	37	59	48	40	35	43	37	33	39	34	30	35	31	28
8	58	46	38	33	55	44	37	32	40	34	29	36	31	27	32	28	25
9	54	42	35	29	51	40	33	29	36	31	27	33	28	25	30	26	23
10	51	39	31	27	48	37	30	26	34	28	24	31	26	23	28	24	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5277	5277	5277
5°	5277	5181	5217
10°	5217	5068	5038
15°	5137	4889	4767
20°	5035	4647	4438
25°	4929	4378	4121
30°	4790	4104	3722
35°	4654	3810	3370
40°	4515	3506	2970
45°	4354	3172	2607
50°	4187	2835	2254
55°	4011	2477	1914
60°	3808	2104	1567
65°	3574	1727	1401
70°	3289	1375	1255
75°	2931	1189	1124
80°	2416	966	948
85°	1586	598	666

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4354 cd/sqm

TEST NUMBER: P926170

CATALOG NUMBER: DFN2DIP-TR2F0-060D030US950-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.7	3.0
10°-20°	608.7	8.2
20°-30°	854.5	11.6
30°-40°	931.5	12.6
40°-50°	856.2	11.6
50°-60°	672.4	9.1
60°-70°	437.7	5.9
70°-80°	225.3	3.0
80°-90°	60.1	0.8
90°-100°	56.0	0.8
100°-110°	178.0	2.4
110°-120°	304.6	4.1
120°-130°	400.5	5.4
130°-140°	449.6	6.1
140°-150°	440.9	6.0
150°-160°	369.8	5.0
160°-170°	245.3	3.3
170°-180°	85.7	1.2
0°-30°	1684.9	22.8
0°-40°	2616.4	35.4
0°-60°	4144.9	56.0
0°-90°	4868.0	65.8
90°-120°	538.5	7.3
90°-150°	1829.5	24.7
90°-180°	2530.0	34.2
0°-180°	7398.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2366	2366	2366	2366	2366	
5°	2366	2355	2327	2346	2340	224
15°	2250	2226	2154	2113	2092	634
25°	2042	1974	1833	1745	1713	939
35°	1760	1651	1462	1327	1280	1102
45°	1439	1295	1071	918	867	1111
55°	1094	927	696	567	527	978
65°	739	565	372	300	293	732
75°	394	244	171	156	154	417
85°	92	47	41	41	41	106
90°	1	10	27	25	26	7
95°	40	48	49	49	48	44
105°	164	166	168	169	169	173
115°	306	310	309	308	306	302
125°	445	451	449	447	446	397
135°	575	583	585	584	582	444
145°	698	704	708	709	706	436
155°	798	800	803	807	804	367
165°	868	868	868	873	869	245
175°	904	901	900	905	900	86
180°	905	905	905	905	905	

TEST NUMBER: P926170

CATALOG NUMBER: DFN2DIP-TR2F0-060D030US950-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2365.7	2365.7	2365.7	2365.7	2365.7
2.5°	2376.4	2365.7	2342.1	2363.6	2359.3
5°	2365.7	2355.0	2327.1	2346.5	2340.1
7.5°	2346.5	2333.7	2303.7	2312.1	2301.4
10°	2320.7	2305.7	2263.1	2256.5	2243.7
12.5°	2288.7	2269.4	2211.5	2198.8	2175.1
15°	2250.1	2226.4	2153.8	2113.1	2091.7
17.5°	2205.2	2170.8	2080.9	2033.8	1999.6
20°	2153.8	2110.8	2003.9	1950.5	1903.2
22.5°	2098.1	2048.8	1924.6	1851.9	1819.9
25°	2042.5	1973.9	1832.6	1745.0	1712.7
27.5°	1976.2	1903.2	1747.0	1646.3	1597.1
30°	1905.5	1824.0	1652.7	1543.7	1485.8
32.5°	1836.9	1738.4	1563.0	1434.4	1380.8
35°	1759.9	1650.7	1462.4	1327.4	1280.2
37.5°	1685.0	1567.0	1368.1	1220.3	1166.8
40°	1605.7	1477.4	1269.5	1117.5	1061.9
42.5°	1524.4	1387.4	1171.1	1012.6	959.2
45°	1438.7	1295.2	1070.6	918.3	867.0
47.5°	1357.4	1205.5	974.2	822.1	775.0
50°	1267.5	1115.5	880.0	732.1	687.4
52.5°	1179.5	1019.0	790.0	648.7	608.1
55°	1094.0	927.0	695.8	567.4	526.7
57.5°	1006.3	834.9	612.4	492.5	458.1
60°	916.3	745.1	524.5	415.5	381.1
62.5°	828.6	657.4	449.5	346.9	329.8
65°	738.7	565.1	372.5	299.8	293.3
67.5°	653.0	479.5	299.8	263.3	256.9
70°	563.1	396.1	248.2	227.0	218.3
72.5°	477.5	318.9	207.6	190.6	186.2
75°	393.9	243.9	171.2	156.3	154.3
77.5°	310.5	173.3	134.9	126.3	122.0
80°	233.3	124.2	102.7	94.3	94.3
82.5°	162.7	83.6	70.6	66.3	66.3
85°	92.0	47.0	40.6	40.6	40.6
87.5°	34.3	17.1	17.1	15.0	15.0
90°	0.9	9.8	26.7	25.1	25.9
92.5°	16.9	22.9	23.8	24.5	24.5
95°	39.9	47.5	48.8	48.8	47.5
97.5°	66.3	73.4	76.4	76.4	76.4
100°	96.8	103.1	105.3	105.3	104.6
102.5°	129.1	133.8	136.7	137.6	136.7
105°	164.3	166.5	168.1	169.4	169.4
107.5°	199.2	202.4	202.4	203.0	199.2
110°	233.1	237.5	237.5	237.5	235.3

TEST NUMBER: P926170

CATALOG NUMBER: DFN2DIP-TR2F0-060D030US950-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	269.6	274.3	273.4	271.2	269.6
115°	305.7	310.0	308.6	307.9	305.7
117.5°	341.3	347.4	343.5	341.3	339.1
120°	377.4	383.4	377.4	377.4	374.9
122.5°	410.1	417.8	413.9	411.7	410.1
125°	444.6	451.3	449.1	446.7	445.9
127.5°	478.0	486.5	483.6	480.2	478.0
130°	509.4	519.3	517.9	516.3	513.3
132.5°	544.6	552.3	552.8	549.0	546.8
135°	575.0	583.4	585.1	584.2	582.0
137.5°	608.7	615.6	617.0	616.5	613.1
140°	638.5	645.4	649.2	649.2	646.1
142.5°	669.1	675.9	678.1	679.0	675.9
145°	698.0	703.5	707.9	708.6	705.7
147.5°	724.0	730.8	734.0	735.4	732.4
150°	750.7	755.4	758.3	760.8	758.3
152.5°	774.5	779.0	782.9	785.9	782.9
155°	798.2	800.3	802.8	806.6	804.2
157.5°	818.6	820.2	821.7	827.1	823.3
160°	836.9	838.6	839.4	844.0	840.8
162.5°	853.8	853.8	854.7	859.8	856.0
165°	868.3	867.5	867.5	872.9	869.1
167.5°	881.4	878.9	878.9	884.4	880.5
170°	891.2	889.0	888.3	893.7	889.0
172.5°	898.0	895.9	895.0	900.5	895.9
175°	903.5	901.3	899.7	905.2	900.5
177.5°	906.5	904.3	902.7	907.3	902.7
180°	905.2	905.2	905.2	905.2	905.2

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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	14.16	15.14	14.97	15.97	17.00	10.14	11.12	10.96	11.95	12.98
	3H	15.82	16.70	16.65	17.54	18.60	11.32	12.20	12.15	13.04	14.10
	4H	16.42	17.25	17.27	18.10	19.17	11.77	12.60	12.62	13.45	14.51
	6H	16.83	17.59	17.69	18.45	19.53	12.09	12.85	12.94	13.70	14.78
	8H	16.95	17.67	17.82	18.55	19.63	12.17	12.90	13.04	13.77	14.85
	12H	17.01	17.70	17.88	18.57	19.67	12.21	12.90	13.09	13.77	14.88
4H	2H	14.19	15.01	15.04	15.86	16.93	10.74	11.57	11.59	12.42	13.48
	3H	16.01	16.69	16.87	17.57	18.66	12.09	12.77	12.95	13.65	14.74
	4H	16.68	17.31	17.56	18.19	19.30	12.63	13.25	13.50	14.13	15.24
	6H	17.19	17.72	18.07	18.63	19.74	13.04	13.57	13.93	14.48	15.59
	8H	17.35	17.85	18.24	18.75	19.88	13.16	13.66	14.05	14.56	15.69
	12H	17.44	17.89	18.35	18.81	19.94	13.22	13.67	14.13	14.59	15.72
8H	4H	16.66	17.16	17.55	18.06	19.19	12.90	13.40	13.79	14.30	15.43
	6H	17.21	17.62	18.12	18.56	19.69	13.40	13.82	14.32	14.76	15.89
	8H	17.41	17.77	18.34	18.71	19.85	13.58	13.95	14.51	14.88	16.03
	12H	17.54	17.86	18.47	18.78	19.98	13.70	14.02	14.63	14.94	16.14
12H	4H	16.62	17.07	17.53	17.99	19.12	12.91	13.36	13.82	14.28	15.41
	6H	17.18	17.55	18.11	18.48	19.62	13.45	13.81	14.38	14.75	15.89
	8H	17.39	17.71	18.32	18.64	19.83	13.65	13.97	14.58	14.90	16.09