

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: P920659

Luminaire Tested: DFN2DIP-TR2F0-030D040US935-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920659
REPORT IS A COMBINATION OF REPORTS P901764 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D040US935-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

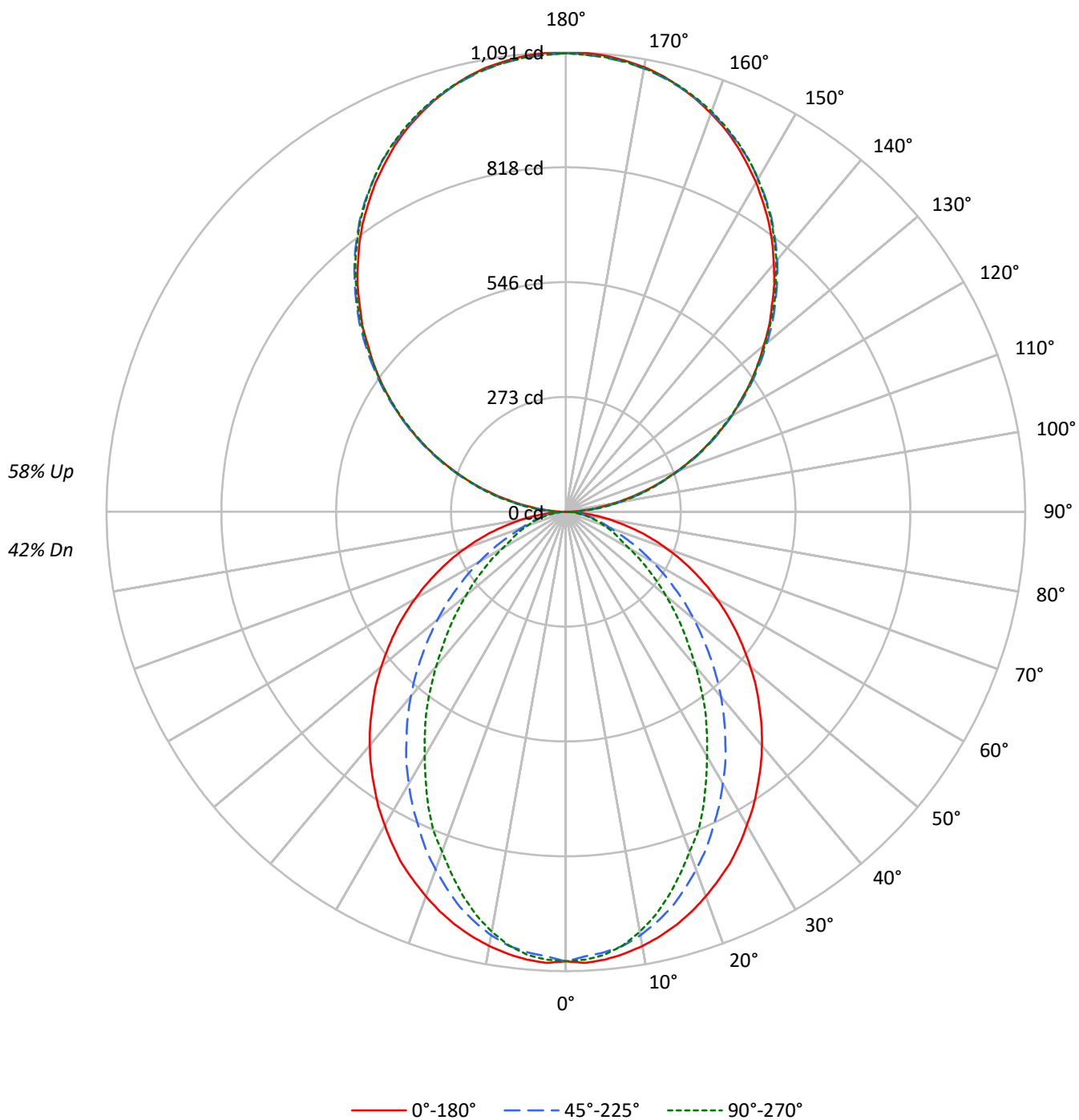
Lumens per Lamp: N/A
Luminaire Lumens: 5243.4 lumens
Efficiency: N/A
Efficacy: 96.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 54.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P920659

CATALOG NUMBER: DFN2DIP-TR2F0-030D040US935-RLLONL

Luminous Intensity Polar Plot



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49
1	96	92	89	85	88	84	81	78	70	67	65	56	55	53	44	43	42
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36
3	81	72	65	59	73	66	60	55	55	50	47	44	41	39	35	33	31
4	74	64	56	50	67	58	52	47	49	44	40	40	36	33	31	29	27
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	28	26	24
6	63	51	43	38	57	47	40	35	40	34	30	33	29	26	26	23	21
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	34	29	49	39	32	28	33	28	24	27	23	21	22	19	17
9	50	38	31	26	46	36	29	25	30	25	22	25	21	19	20	18	16
10	47	35	28	24	43	33	26	22	28	23	19	23	19	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2381	2381	2381
5°	2381	2338	2354
10°	2354	2287	2274
15°	2318	2206	2151
20°	2272	2097	2003
25°	2224	1976	1859
30°	2162	1852	1679
35°	2100	1719	1521
40°	2037	1582	1340
45°	1965	1431	1176
50°	1889	1279	1017
55°	1810	1118	864
60°	1718	950	707
65°	1613	779	632
70°	1484	620	566
75°	1322	537	507
80°	1091	435	427
85°	716	270	300

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1965 cd/sqm

TEST NUMBER: P920659

CATALOG NUMBER: DFN2DIP-TR2F0-030D040US935-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	1.9
10°-20°	274.7	5.2
20°-30°	385.6	7.4
30°-40°	420.3	8.0
40°-50°	386.3	7.4
50°-60°	303.4	5.8
60°-70°	197.5	3.8
70°-80°	101.7	1.9
80°-90°	29.0	0.6
90°-100°	67.4	1.3
100°-110°	214.2	4.1
110°-120°	366.5	7.0
120°-130°	482.0	9.2
130°-140°	541.0	10.3
140°-150°	530.5	10.1
150°-160°	445.0	8.5
160°-170°	295.1	5.6
170°-180°	103.2	2.0
0°-30°	760.3	14.5
0°-40°	1180.7	22.5
0°-60°	1870.4	35.7
0°-90°	2198.6	41.9
90°-120°	648.0	12.4
90°-150°	2201.5	42.0
90°-180°	3045.0	58.1
0°-180°	5243.4	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°	1	12	32	30	31	5
95°	48	57	59	59	57	53
105°	198	200	202	204	204	209
115°	368	373	371	370	368	364
125°	535	543	540	538	537	478
135°	692	702	704	703	700	535
145°	840	846	852	853	849	525
155°	960	963	966	971	968	442
165°	1045	1044	1044	1050	1046	295
175°	1087	1085	1083	1089	1084	103
180°	1089	1089	1089	1089	1089	

TEST NUMBER: P920659

CATALOG NUMBER: DFN2DIP-TR2F0-030D040US935-RLLONL

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°	0.9	11.8	32.2	30.2	31.2
92.5°	20.3	27.6	28.6	29.5	29.5
95°	48.0	57.2	58.8	58.8	57.2
97.5°	79.8	88.3	92.0	92.0	92.0
100°	116.6	124.2	126.7	126.7	125.8
102.5°	155.3	160.9	164.5	165.5	164.5
105°	197.7	200.3	202.2	203.9	203.9
107.5°	239.7	243.7	243.7	244.3	239.7
110°	280.4	285.7	285.7	285.7	283.1

TEST NUMBER: P920659

CATALOG NUMBER: DFN2DIP-TR2F0-030D040US935-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	324.4	330.0	329.0	326.4	324.4
115°	367.7	373.1	371.3	370.4	367.7
117.5°	410.8	418.0	413.5	410.8	408.2
120°	454.2	461.3	454.2	454.2	451.2
122.5°	493.5	502.7	498.2	495.5	493.5
125°	534.9	543.1	540.5	537.5	536.6
127.5°	575.3	585.5	581.9	577.9	575.3
130°	613.0	624.9	623.3	621.3	617.7
132.5°	655.4	664.6	665.3	660.6	658.1
135°	691.9	702.1	704.0	703.0	700.4
137.5°	732.6	740.8	742.4	741.7	737.9
140°	768.4	776.6	781.2	781.2	777.6
142.5°	805.2	813.4	816.0	817.0	813.4
145°	840.0	846.5	851.8	852.8	849.2
147.5°	871.2	879.3	883.3	884.9	881.3
150°	903.4	909.0	912.6	915.5	912.6
152.5°	931.9	937.5	942.1	945.7	942.1
155°	960.4	963.1	966.0	970.7	967.7
157.5°	985.2	987.0	988.7	995.3	990.7
160°	1007.1	1009.1	1010.0	1015.6	1011.7
162.5°	1027.4	1027.4	1028.5	1034.7	1030.1
165°	1044.9	1043.9	1043.9	1050.4	1045.9
167.5°	1060.7	1057.6	1057.6	1064.3	1059.6
170°	1072.5	1069.8	1068.8	1075.4	1069.8
172.5°	1080.6	1078.1	1077.0	1083.7	1078.1
175°	1087.3	1084.6	1082.6	1089.2	1083.7
177.5°	1090.9	1088.2	1086.2	1091.8	1086.2
180°	1089.2	1089.2	1089.2	1089.2	1089.2

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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	9.23	10.00	10.26	11.03	12.41	5.21	5.98	6.24	7.01	8.39
	3H	10.88	11.56	11.92	12.61	14.01	6.38	7.06	7.42	8.11	9.51
	4H	11.47	12.12	12.52	13.16	14.57	6.81	7.46	7.87	8.51	9.92
	6H	11.87	12.46	12.93	13.51	14.94	7.12	7.72	8.18	8.76	10.19
	8H	11.98	12.55	13.05	13.61	15.03	7.20	7.77	8.27	8.83	10.25
	12H	12.03	12.57	13.10	13.63	15.07	7.23	7.77	8.30	8.83	10.27
4H	2H	9.23	9.89	10.29	10.93	12.34	5.78	6.43	6.84	7.48	8.89
	3H	11.03	11.57	12.10	12.64	14.07	7.11	7.65	8.18	8.72	10.15
	4H	11.70	12.20	12.77	13.26	14.71	7.64	8.14	8.71	9.20	10.65
	6H	12.19	12.62	13.27	13.70	15.14	8.04	8.46	9.12	9.55	10.99
	8H	12.35	12.75	13.43	13.83	15.28	8.16	8.56	9.24	9.63	11.09
	12H	12.43	12.79	13.53	13.88	15.34	8.21	8.57	9.31	9.66	11.12
8H	4H	11.66	12.06	12.74	13.14	14.59	7.90	8.30	8.98	9.38	10.83
	6H	12.20	12.53	13.30	13.65	15.10	8.40	8.72	9.50	9.84	11.30
	8H	12.40	12.69	13.51	13.79	15.26	8.58	8.86	9.69	9.97	11.44
	12H	12.52	12.77	13.63	13.87	15.38	8.68	8.93	9.79	10.03	11.54
12H	4H	11.61	11.97	12.71	13.06	14.52	7.90	8.26	9.00	9.35	10.81
	6H	12.17	12.46	13.28	13.56	15.04	8.44	8.73	9.55	9.83	11.30
	8H	12.38	12.63	13.49	13.73	15.24	8.63	8.89	9.75	9.98	11.50