

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: P918110

Luminaire Tested: DFN2DIP-TR3F0-070D040US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918110
REPORT IS A COMBINATION OF REPORTS P900294 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-070D040US930-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

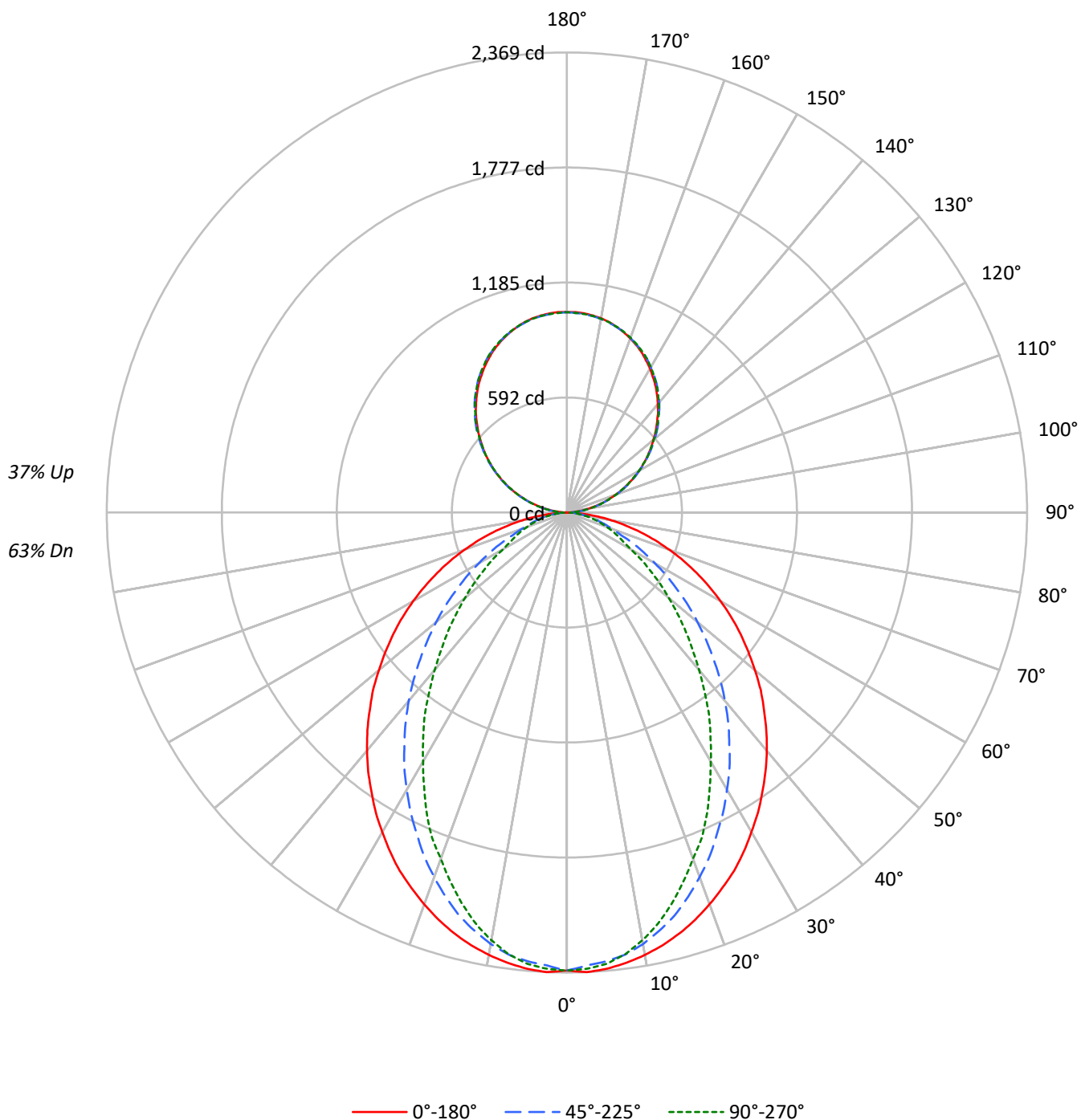
Lumens per Lamp: N/A
Luminaire Lumens: 7737.1 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 99.7
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

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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	110	110	110	110	103	103	103	103	90	90	90	79	79	79	68	68	68
1	101	97	93	90	95	91	88	85	80	78	76	70	68	67	61	60	58
2	93	85	80	75	87	80	75	71	71	67	64	62	59	57	54	52	50
3	85	76	69	63	79	71	65	60	63	58	54	56	52	49	49	46	43
4	78	67	60	54	73	64	57	51	57	51	47	50	46	42	44	41	38
5	72	61	53	47	67	57	50	45	51	45	41	45	41	37	40	36	33
6	67	55	47	41	62	52	44	39	46	40	36	41	36	33	36	33	30
7	62	50	42	36	58	47	40	35	42	36	32	38	33	29	33	30	27
8	57	45	38	32	54	43	36	31	39	33	29	35	30	26	31	27	24
9	54	42	34	29	50	40	33	28	36	30	26	32	27	24	29	25	22
10	50	38	31	26	47	36	30	25	33	27	24	30	25	22	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2939	2939	2939
5°	2942	2890	2909
10°	2912	2831	2813
15°	2870	2735	2664
20°	2815	2604	2483
25°	2759	2457	2308
30°	2685	2307	2087
35°	2611	2146	1893
40°	2537	1979	1671
45°	2450	1794	1470
50°	2361	1608	1273
55°	2267	1410	1084
60°	2159	1203	891
65°	2034	992	799
70°	1882	796	720
75°	1691	696	652
80°	1415	577	559
85°	963	373	408

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2450 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.1	2.9
10°-20°	606.9	7.8
20°-30°	852.0	11.0
30°-40°	928.8	12.0
40°-50°	853.6	11.0
50°-60°	670.4	8.7
60°-70°	436.4	5.6
70°-80°	224.6	2.9
80°-90°	60.3	0.8
90°-100°	63.8	0.8
100°-110°	202.8	2.6
110°-120°	347.0	4.5
120°-130°	456.4	5.9
130°-140°	512.3	6.6
140°-150°	502.4	6.5
150°-160°	421.4	5.4
160°-170°	279.5	3.6
170°-180°	97.7	1.3
0°-30°	1679.9	21.7
0°-40°	2608.7	33.7
0°-60°	4132.7	53.4
0°-90°	4853.9	62.7
90°-120°	613.6	7.9
90°-150°	2084.7	26.9
90°-180°	2883.0	37.3
0°-180°	7737.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2359	2359	2359	2359	2359	
5°	2359	2348	2320	2340	2333	224
15°	2244	2220	2147	2107	2086	632
25°	2036	1968	1827	1740	1708	937
35°	1755	1646	1458	1324	1276	1098
45°	1434	1291	1067	916	864	1108
55°	1091	924	694	566	525	975
65°	736	564	371	299	292	730
75°	393	243	171	156	154	415
85°	92	47	40	40	40	105
90°	1	11	30	29	30	8
95°	45	54	56	56	54	51
105°	187	190	192	193	193	198
115°	348	353	352	351	348	344
125°	506	514	512	509	508	453
135°	655	665	667	666	663	506
145°	795	802	807	808	804	497
155°	910	912	915	919	916	419
165°	989	988	988	995	990	279
175°	1030	1027	1025	1031	1026	98
180°	1031	1031	1031	1031	1031	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2358.7	2358.7	2358.7	2358.7	2358.7
2.5°	2369.3	2358.7	2335.2	2356.7	2352.4
5°	2358.7	2348.1	2320.3	2339.5	2333.1
7.5°	2339.5	2326.8	2296.9	2305.3	2294.7
10°	2313.9	2299.0	2256.3	2249.8	2237.1
12.5°	2281.9	2262.7	2205.0	2192.3	2168.7
15°	2243.5	2219.9	2147.4	2106.9	2085.6
17.5°	2198.6	2164.5	2074.8	2027.8	1993.6
20°	2147.4	2104.6	1998.0	1944.7	1897.6
22.5°	2092.0	2042.8	1918.9	1846.4	1814.5
25°	2036.5	1968.0	1827.2	1739.8	1707.6
27.5°	1970.3	1897.6	1741.8	1641.5	1592.4
30°	1899.9	1818.6	1647.8	1539.1	1481.4
32.5°	1831.5	1733.2	1558.4	1430.2	1376.7
35°	1754.7	1645.8	1458.1	1323.6	1276.4
37.5°	1680.0	1562.4	1364.1	1216.6	1163.4
40°	1600.9	1473.0	1265.8	1114.3	1058.7
42.5°	1519.9	1383.3	1167.7	1009.6	956.4
45°	1434.5	1291.4	1067.4	915.7	864.5
47.5°	1353.4	1201.9	971.3	819.6	772.7
50°	1263.7	1112.2	877.3	729.9	685.3
52.5°	1176.1	1015.9	787.7	646.8	606.3
55°	1090.7	924.2	693.7	565.7	525.2
57.5°	1003.3	832.5	610.6	491.0	456.8
60°	913.6	742.8	522.9	414.3	380.0
62.5°	826.1	655.4	448.2	345.8	328.8
65°	736.5	563.5	371.4	299.0	292.4
67.5°	651.1	478.1	299.0	262.4	256.2
70°	561.4	394.9	247.5	226.2	217.6
72.5°	476.1	318.0	207.0	190.0	185.7
75°	392.7	243.2	170.7	155.8	153.8
77.5°	309.6	172.8	134.5	125.9	121.6
80°	232.6	123.8	102.4	94.0	94.0
82.5°	162.2	83.3	70.4	66.1	66.1
85°	91.7	46.9	40.5	40.5	40.5
87.5°	34.2	17.0	17.0	14.9	14.9
90°	0.9	11.2	30.5	28.6	29.5
92.5°	19.2	26.1	27.1	28.0	28.0
95°	45.4	54.1	55.7	55.7	54.1
97.5°	75.6	83.6	87.1	87.1	87.1
100°	110.4	117.6	120.0	120.0	119.1
102.5°	147.1	152.4	155.8	156.7	155.8
105°	187.2	189.6	191.5	193.1	193.1
107.5°	227.0	230.7	230.7	231.3	227.0
110°	265.5	270.5	270.5	270.5	268.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	307.2	312.5	311.5	309.1	307.2
115°	348.2	353.3	351.6	350.7	348.2
117.5°	389.0	395.8	391.5	389.0	386.5
120°	430.1	436.8	430.1	430.1	427.2
122.5°	467.3	476.1	471.7	469.2	467.3
125°	506.5	514.3	511.8	509.0	508.1
127.5°	544.8	554.4	551.0	547.2	544.8
130°	580.5	591.7	590.2	588.3	584.9
132.5°	620.6	629.3	630.0	625.6	623.1
135°	655.2	664.8	666.7	665.7	663.2
137.5°	693.7	701.5	703.0	702.4	698.7
140°	727.6	735.4	739.7	739.7	736.3
142.5°	762.5	770.2	772.7	773.6	770.2
145°	795.4	801.6	806.6	807.6	804.1
147.5°	824.9	832.7	836.4	838.0	834.5
150°	855.4	860.7	864.1	866.9	864.1
152.5°	882.5	887.7	892.1	895.5	892.1
155°	909.5	912.0	914.8	919.2	916.3
157.5°	932.9	934.7	936.2	942.5	938.1
160°	953.7	955.5	956.4	961.7	958.0
162.5°	972.9	972.9	973.9	979.7	975.4
165°	989.4	988.5	988.5	994.7	990.3
167.5°	1004.4	1001.5	1001.5	1007.8	1003.4
170°	1015.5	1013.0	1012.1	1018.3	1013.0
172.5°	1023.3	1020.8	1019.9	1026.1	1020.8
175°	1029.6	1027.0	1025.2	1031.4	1026.1
177.5°	1033.0	1030.5	1028.6	1033.9	1028.6
180°	1031.4	1031.4	1031.4	1031.4	1031.4

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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	11.95	12.90	12.80	13.76	14.84	7.93	8.88	8.78	9.74	10.82
	3H	13.63	14.48	14.49	15.35	16.46	9.12	9.97	9.98	10.84	11.95
	4H	14.24	15.04	15.11	15.92	17.03	9.57	10.37	10.45	11.25	12.37
	6H	14.66	15.39	15.54	16.28	17.41	9.90	10.63	10.78	11.52	12.65
	8H	14.78	15.48	15.68	16.39	17.52	9.99	10.69	10.88	11.59	12.72
	12H	14.84	15.51	15.75	16.41	17.56	10.03	10.70	10.93	11.59	12.75
4H	2H	11.98	12.78	12.86	13.66	14.78	8.53	9.33	9.41	10.21	11.33
	3H	13.81	14.48	14.70	15.39	16.52	9.89	10.55	10.78	11.46	12.60
	4H	14.50	15.11	15.41	16.01	17.17	10.44	11.04	11.34	11.95	13.11
	6H	15.01	15.53	15.93	16.47	17.63	10.85	11.37	11.77	12.31	13.47
	8H	15.19	15.67	16.11	16.60	17.77	10.98	11.47	11.90	12.39	13.57
	12H	15.28	15.72	16.22	16.66	17.84	11.05	11.49	11.99	12.43	13.61
8H	4H	14.48	14.96	15.40	15.89	17.06	10.72	11.20	11.64	12.13	13.30
	6H	15.04	15.44	15.98	16.41	17.58	11.23	11.63	12.18	12.60	13.78
	8H	15.25	15.60	16.20	16.56	17.75	11.42	11.77	12.38	12.73	13.92
	12H	15.39	15.70	16.34	16.65	17.89	11.54	11.85	12.50	12.80	14.04
12H	4H	14.43	14.87	15.37	15.82	16.99	10.73	11.16	11.67	12.11	13.29
	6H	15.01	15.37	15.97	16.33	17.52	11.28	11.64	12.24	12.59	13.78
	8H	15.23	15.54	16.19	16.50	17.74	11.49	11.80	12.45	12.75	13.99