

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: P907059

Luminaire Tested: DFN2DIP-TR2F0-050D040US835-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907059
REPORT IS A COMBINATION OF REPORTS P901768 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D040US835-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

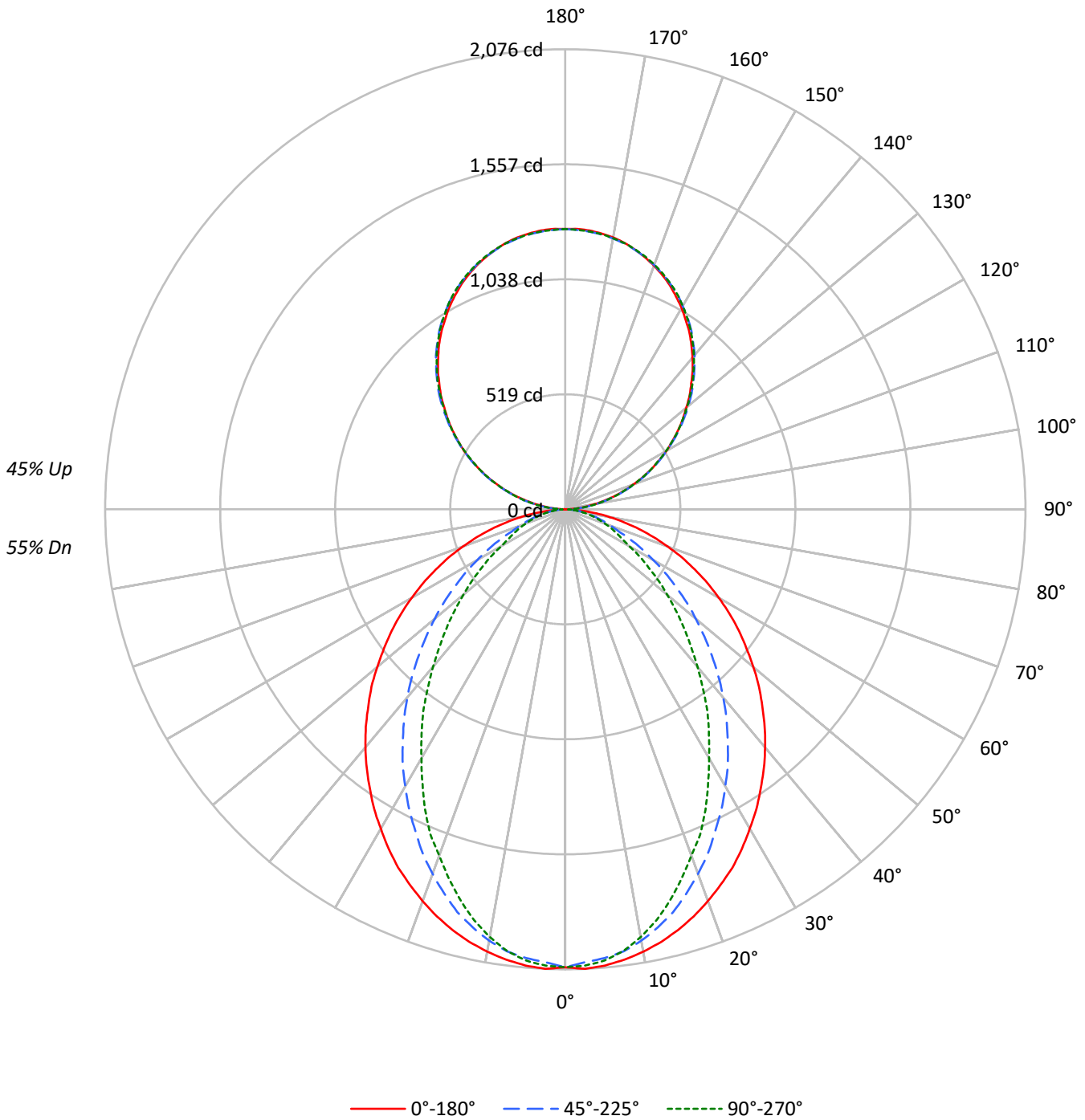
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7790.0 lumens
Efficiency: N/A
Efficacy: 101.3 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): 76.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60	60	60	60	55
1	99	95	91	88	92	89	85	82	76	74	72	65	63	62	54	53	52	54	53	52	47
2	91	84	78	73	84	78	73	69	67	63	60	57	55	52	48	46	45	48	46	45	40
3	83	74	67	61	77	69	63	58	60	55	51	51	48	45	43	41	39	43	41	39	35
4	76	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	39	36	34	30
5	70	59	51	45	65	55	48	43	48	43	38	42	37	34	35	32	30	35	32	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	33	30	32	29	26	32	29	26	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24	30	26	24	21
8	56	44	36	31	52	41	34	30	36	31	27	32	27	24	27	24	21	27	24	21	19
9	52	40	33	28	49	38	31	27	34	28	24	29	25	22	25	22	19	25	22	19	17
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	20	18	24	20	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4609	4609	4609
5°	4610	4526	4557
10°	4557	4427	4401
15°	4488	4271	4165
20°	4398	4059	3877
25°	4306	3824	3600
30°	4185	3585	3251
35°	4065	3328	2944
40°	3944	3063	2594
45°	3803	2771	2277
50°	3657	2477	1969
55°	3504	2164	1672
60°	3326	1838	1369
65°	3122	1509	1224
70°	2873	1201	1096
75°	2561	1039	982
80°	2111	843	828
85°	1386	523	583

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3803 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	2.5
10°-20°	531.7	6.8
20°-30°	746.5	9.6
30°-40°	813.7	10.4
40°-50°	747.9	9.6
50°-60°	587.3	7.5
60°-70°	382.3	4.9
70°-80°	196.8	2.5
80°-90°	53.8	0.7
90°-100°	78.3	1.0
100°-110°	248.7	3.2
110°-120°	425.6	5.5
120°-130°	559.8	7.2
130°-140°	628.3	8.1
140°-150°	616.2	7.9
150°-160°	516.9	6.6
160°-170°	342.8	4.4
170°-180°	119.8	1.5
0°-30°	1471.8	18.9
0°-40°	2285.5	29.3
0°-60°	3620.7	46.5
0°-90°	4253.6	54.6
90°-120°	752.7	9.7
90°-150°	2556.9	32.8
90°-180°	3536.0	45.4
0°-180°	7790.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2066	2066	2066	2066	2066	
5°	2066	2057	2033	2050	2044	196
15°	1966	1945	1881	1846	1827	554
25°	1784	1724	1601	1524	1496	821
35°	1537	1442	1277	1160	1118	962
45°	1257	1131	935	802	757	971
55°	956	810	608	496	460	854
65°	645	494	325	262	256	640
75°	344	213	150	136	135	364
85°	80	41	36	36	36	92
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	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2066.5	2066.5	2066.5	2066.5	2066.5
2.5°	2075.8	2066.5	2045.9	2064.7	2060.9
5°	2066.5	2057.2	2032.8	2049.6	2044.1
7.5°	2049.6	2038.5	2012.3	2019.7	2010.3
10°	2027.2	2014.1	1976.8	1971.1	1959.9
12.5°	1999.2	1982.4	1931.8	1920.7	1900.0
15°	1965.5	1944.9	1881.4	1845.9	1827.2
17.5°	1926.2	1896.3	1817.7	1776.6	1746.6
20°	1881.4	1843.9	1750.4	1703.8	1662.5
22.5°	1832.8	1789.7	1681.2	1617.7	1589.7
25°	1784.1	1724.2	1600.8	1524.2	1496.0
27.5°	1726.2	1662.5	1526.0	1438.1	1395.1
30°	1664.5	1593.3	1443.7	1348.4	1297.8
32.5°	1604.6	1518.5	1365.3	1253.0	1206.2
35°	1537.3	1441.9	1277.4	1159.5	1118.3
37.5°	1471.8	1368.9	1195.1	1065.9	1019.3
40°	1402.6	1290.5	1108.9	976.2	927.6
42.5°	1331.6	1211.9	1023.0	884.5	837.9
45°	1256.8	1131.4	935.1	802.2	757.3
47.5°	1185.7	1053.0	851.0	718.1	677.0
50°	1107.2	974.4	768.7	639.5	600.4
52.5°	1030.4	890.1	690.1	566.7	531.2
55°	955.6	809.7	607.7	495.6	460.1
57.5°	879.0	729.4	534.9	430.2	400.2
60°	800.4	650.8	458.1	362.9	332.9
62.5°	723.8	574.2	392.7	303.0	288.1
65°	645.2	493.7	325.4	261.9	256.2
67.5°	570.4	418.9	261.9	230.0	224.4
70°	491.9	346.0	216.9	198.2	190.7
72.5°	417.1	278.6	181.4	166.5	162.7
75°	344.1	213.1	149.6	136.5	134.7
77.5°	271.2	151.4	117.9	110.3	106.5
80°	203.8	108.5	89.7	82.3	82.3
82.5°	142.1	73.0	61.7	57.9	57.9
85°	80.4	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
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



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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



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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	12.75	13.62	13.67	14.55	15.76	8.73	9.60	9.65	10.53	11.74
	3H	14.40	15.18	15.34	16.13	17.36	9.90	10.68	10.84	11.63	12.86
	4H	15.00	15.73	15.95	16.68	17.92	10.35	11.08	11.30	12.03	13.27
	6H	15.40	16.08	16.36	17.03	18.29	10.65	11.33	11.62	12.29	13.54
	8H	15.52	16.16	16.49	17.14	18.39	10.74	11.38	11.71	12.35	13.60
	12H	15.57	16.18	16.55	17.15	18.43	10.78	11.39	11.75	12.35	13.63
4H	2H	12.77	13.50	13.72	14.45	15.69	9.32	10.05	10.27	11.00	12.24
	3H	14.57	15.18	15.54	16.16	17.42	10.65	11.26	11.62	12.24	13.50
	4H	15.25	15.80	16.22	16.78	18.06	11.19	11.74	12.16	12.72	14.00
	6H	15.74	16.22	16.73	17.22	18.50	11.59	12.07	12.58	13.07	14.34
	8H	15.90	16.35	16.89	17.34	18.63	11.71	12.16	12.70	13.15	14.44
	12H	15.99	16.39	16.99	17.40	18.70	11.77	12.17	12.77	13.18	14.48
8H	4H	15.21	15.66	16.20	16.65	17.94	11.46	11.90	12.44	12.89	14.19
	6H	15.76	16.12	16.77	17.16	18.45	11.95	12.32	12.97	13.36	14.64
	8H	15.96	16.28	16.98	17.30	18.61	12.13	12.46	13.15	13.48	14.79
	12H	16.08	16.37	17.10	17.38	18.74	12.24	12.53	13.26	13.54	14.89
12H	4H	15.17	15.57	16.17	16.58	17.87	11.46	11.86	12.46	12.87	14.17
	6H	15.73	16.05	16.75	17.08	18.38	12.00	12.32	13.02	13.34	14.65
	8H	15.94	16.22	16.96	17.24	18.59	12.19	12.48	13.22	13.49	14.85